JUGONNATH SUNKERSETT
PRESENTATION.

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ENGLISH BOTANY·

OR,

COLOURED FIGURES

OF

BRITISH PLANTS,

WITH THEIR

ESSENTIAL CHARACTERS, SYNONYMS, AND PLACES OF GROWTH:

TO WHICH WILL BE ADDED,

OCCASIONAL REMARKS.

BY

JAMES EDWARD SMITH, M.D. F.R.S.

MEMBER OF THE IMP. ACAD. NATURÆ CURIOSORUM, THE ACADEMIES OF STOCKHOLM, UPSAL, TURIN, LISBON, LUND, BERLIN, PHILADELPHIA, AND THE NAT. HIST. SOCIETIES OF PARIS AND MOSCOW;

PRESIDENT OF THE LINNÆAN SOCIETY.

THE FIGURES BY

JAMES SOWERBY, F.L.S.

55378

——"VIRESQUE ACQUIRIT EUNDO."——*Virg.*

VOL. XXIX.

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MDCCCIX.

Science
Smith
55378

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2017

1050.

Hypericum calycinum.

May 2 1809 Published by J.Sowerby, London.

HYPERICUM calycinum.

Large-flowered St. John's-wort.

POLYADELPHIA Polyandria.

GEN. CHAR. *Cal.* deeply 5-cleft, inferior. *Pet.* 5. *Filaments* numerous, united at the base into 3 or 5 sets. *Caps.* with many seeds.

SPEC. CHAR. Styles five. Flowers solitary. Stem shrubby, branched, quadrangular. Segments of the calyx obovate, obtuse. Leaves oblong.

SYN. Hypericum calycinum. *Linn. Mant.* 106. *Ait. Hort. Kew. v.* 3. 103. *Curt. Mag. t.* 146; excluding Bauhin's synonym.

WE add to our Flora another *Hypericum* without the least scruple. This species, erroneously suspected by Linnæus to be of American origin, is known by the authority of Sir George Wheler and of Professor Sibthorp to grow in woods about the village of Belgrad, near Constantinople. Our specimen was gathered by Mr. Drummond, curator of the new botanic garden of Cork, and sent us by Mr. Hincks, secretary to the Cork Institution. The plant grows in great abundance 3 miles from Cork in the way to Bandon, in those gentlemen's opinion, perfectly wild, nor, when we consider the climate and exposure, and how little Ireland has been scientifically examined, can we doubt it. We had hoped that Bauhin's Pyrenæan *Ascyrum magno flore, Prod.* 130, might prove the same; but a manuscript note of Linnæus, made on examining Burser's herbarium, asserts that to be his *H. Ascyron*, and not *calycinum*. Morison has figured our plant, *sect.* 5. *t.* 35. *f.* 2, but his description is a miserable mass of error.

This very handsome plant is a great and frequent ornament to shrubberies, growing under trees, and flowering all summer long. The roots creep. The stems are shrubby; branches simple, leafy, square, each terminated by a flower larger than in any other *Hypericum*, of a rich golden yellow, with 5, rarely 4, styles. The petals are often lobed. The leaves are sessile, elliptic-oblong, obtuse, entire, punctate, paler beneath. No plant is so difficult as this to fasten, by any known cement, to paper when dried.

2018
1136.
Gnaphalium
margaritaceum.
May 1.1809. Published by J. Sowerby. London.

GNAPHALIUM margaritaceum.

American Cudweed, or Pearly Everlasting.

SYNGENESIA Polygamia-superflua.

GEN. CHAR. *Recept.* naked. *Down* rough or feathery. *Cal.* imbricated; with coloured membranous scales *Florets* of the radius awlshaped. Some *florets* of the disk occasionally abortive.

SPEC. CHAR. Herbaceous. Leaves linear-lanceolate, sharp-pointed, alternate. Stem branched upwards. Corymbs level-topped.

SYN. Gnaphalium margaritaceum. *Linn. Sp. Pl.* 1198. *Sm. Fl. Brit.* 868. *Huds.* 360. *With.* 712. *Hull.* 183. *ed.* 2. 239. *Dicks. H. Sicc. fasc.* 8. 15.
G. americanum. *Raii Syn.* 182.

A NATIVE of moist places near the banks of rivers, but Ray judged it scarcely wild, probably because it is known to abound in America. Our much esteemed friend the Rev. T. Butt sent it from a rivulet in the heart of Wire forest, Worcestershire, and Dr. Salt gathered it by a rivulet at Longdon near Litchfield. Mr. Middleton of Malton, Yorkshire, sent a specimen to Mr. Sowerby from the river Rhymney, Glamorganshire, where, as Dillenius records, it is abundant, and, Mr. Middleton thinks, certainly wild. This flower, from its purity and durability, an elegant emblem of immortality, is planted, as that gentleman informs us, "in the church-yards of South Wales to decorate the graves of the dead;" hence it becomes naturalized in such places. It is a common favourite in cottage gardens throughout many parts of England, flowering in August.

Root perennial, somewhat creeping. Plant 2 or 3 feet high, cottony, especially the backs of the leaves. Flowers numerous, corymbose, slightly aromatic, most beautiful before they expand, the pure opaque unchangeable whiteness of the calyx being then most conspicuous. The disk is of a dull yellow. Receptacle granulated. Seed-down rough.

2019
1146.

Erigeron
Canadensis.

Mrs. Lilley Published by J. Sowerby London.

ERIGERON canadense.

Canada Flea-bane.

SYNGENESIA Polygamia-superflua.

GEN. CHAR. *Recept.* naked. *Down* simple. *Florets* of the radius linear, very narrow, numerous. *Cal.* imbricated.

SPEC. CHAR. Stem hairy, panicled. Leaves lanceolate; the lower ones toothed.

SYN. Erigeron canadense. *Linn. Sp. Pl.* 1210. *Sm. Fl. Brit.* 876. *Huds.* 363. *With.* 718. *Hull.* 185. *ed.* 2. 240. *Dichs. H. Sicc. fasc.* 10. 16.
Conyza canadensis annua acris alba, linariæ foliis. *Raii Syn.* 175.

FOUND in cultivated as well as waste ground, but Ray thinks it not indigenous, for the reason, we presume, given in our last page concerning the American Cudweed. It is hard to say to what distances such volatile seeds may or may not be transported by natural means. We have not met with this *Erigeron* near London, as indicated by Ray and Hudson. A fresh specimen, drawn in the plate, was sent us from the Ballast hills of the Northumberland coast by Mr. Robson, and a dry one from "sandy ground below the bridge at Neath, Glamorganshire, to all appearance perfectly wild," by Mr. Middleton.

Root annual. Stem erect, wand-like, leafy, hairy, furrowed, branched in a panicled manner, and bearing very numerous small yellowish flowers. It varies from 1 to 2 feet, or more, in height. Leaves numerous, alternate, lanceolate, acute, rough-edged, entire, except the lower ones, which are mostly toothed towards their extremities. Calyx-scales linear-lanceolate, acute, smoothish; at length reflexed. Marginal florets narrow, erect, whitish, tipped with flame-colour; those of the disk white. Seeds white, silky. Down rough, as well as the receptacle.

Equisetum arvense.

May 1.1804 Published by J.Sowerby London.

EQUISETUM arvense.

Corn Horsetail.

CRYPTOGAMIA Filices.

GEN. CHAR. *Cathin* composed of peltate scales, flowering on their inside. *Partial Calyx* of 2 valves. *Seeds* numerous, naked, enfolded by 4 pollen-bearing filaments.

SPEC. CHAR. Sterile stems branched in every direction; the branches roughish, with simple angles: flowering ones unbranched; their sheaths distant, with broad deep teeth.

SYN. Equisetum arvense. *Linn. Sp. Pl.* 1516. *Sm. Fl. Brit.* 1103. *Huds.* 447. *With.* 753. *Hull.* 233. *Relh.* 403. *Sibth.* 263. *Abbot* 222. *Curt. Lond. fasc.* 4. *t.* 64. *Bolt. Fil.* 62. *t.* 34.

E. arvense, longioribus setis. *Raii Syn.* 130.

β. E. pratense, longissimis setis. *Dill. in Raii Syn.* 131.

IN low moist cornfields very frequent, and according to Mr. Curtis, very troublesome to the farmer, as being difficult of extirpation, and noxious to cattle, especially kine. We presume its action on their intestines may be chiefly mechanical, considering the sharp rough angles and points with which its whole form abounds, and the abundance of flinty earth in its cuticle, which forms a file similar to, though finer than *E. hyemale*, *t.* 915.

The root is creeping and perennial. In April it throws up several simple, pale brown, smooth, juicy stems, a span high, each encompassed with about 4, rather distant, furrowed, brown-toothed sheaths, and bearing a terminal, upright, large, ovate-oblong, brown catkin. The sterile stems appear some time afterwards, and are much taller, jointed, furrowed, rough-edged, beset from top to bottom with numerous, whorled, simple, jointed branches, whose joints are deeply furrowed, and the intermediate angles or ridges are simple, one of them extending to the point of each tooth. The variety β is but a trifling one; see Bauhin's *Theatrum* 246.

The flowering stems of this plant were evidently mistaken for our *E. variegatum*, *t.* 1987, by Mr. Lawson. See *Raii Syn.* 130. *n.* 3.

2021
1464
Equisetum
palustre.
May 1.1804 Published by J.Sowerby, London.

EQUISETUM palustre.

Marsh Horsetail.

CRYPTOGAMIA Filices.

GEN. CHAR. *Cathin* composed of peltate scales, flowering on their inside. *Partial Calyx* of 2 valves. *Seeds* numerous, naked, enfolded by 4 pollen-bearing filaments.

SPEC. CHAR. Stems deeply furrowed, branched; branches simple, erect, roughish, with simple angles. Catkin terminal.

SYN. Equisetum palustre. *Linn. Sp. Pl.* 1516. *Sm. Fl. Brit.* 1103. *Huds.* 448. *With.* 754. *Hull.* 233. *Relh.* 403. *Sibth.* 264. *Abbot* 222. *Bolt. Fil.* 64. *t.* 35. *Raii Syn.* 131. *Ger. em.* 1114.

β. E. palustre, tenuissimis et longissimis setis. *Dill. in Raii Syn.* 131.

γ. E. palustre minus polystachion. *Ibid. t.* 5. *f.* 3.

THIS grows in a black boggy soil not unfrequently, and is readily known from the last by its fructification terminating the leafy stems. The roots are perennial and creeping. Stem branched throughout, deeply furrowed, with prominent, roughish, intervening angles. Branches whorled, upright, various in length, simple, jointed, deeply furrowed, with simple intermediate angles, minutely granulated in the surface, but scarcely rough to the touch. Catkin terminal, solitary, blackish, cylindrical inclining to ovate; its scales at length becoming widely separated. Dillenius has delineated, from Buddle's herbarium, a variety in which many of the upper branches bear catkins, as well as the main stem.

The branched state of *E. limosum*, *t.* 929, somewhat resembles this, but has a much thicker stem, with about twice the number of furrows, and those much more superficial than in the species we are describing.

1439.

Equisetum fluviatile.

Sowerby Del. Published by J. Sowerby London

EQUISETUM fluviatile.

Great Water Horsetail.

CRYPTOGAMIA Filices.

GEN. CHAR. *Cathin* composed of peltate scales, flowering on their inside. *Partial Calyx* of 2 valves. *Seeds* numerous, naked, enfolded by 4 pollen-bearing filaments.

SPEC. CHAR. Sterile stems with innumerable roughish branches, whose angles are double: flowering ones unbranched; their sheaths not far distant, with numerous slender teeth.

SYN. Equisetum fluviatile. *Linn. Sp. Pl.* 1517. *Sm. Fl. Brit.* 1104. *Huds.* 448. *With.* 755. *Hull.* 233. *Relh.* 404. *Sibth.* 264. *Abbot* 222. *Bolt. Fil.* 66. *t.* 36, 37.

E. majus. *Raii Syn.* 130.

E. Telmateia. *Ehrh. Crypt. n.* 31.

FOUND here and there in watery places, about the sheltered banks of rivers and lakes, where its large long-branched stems, often 6 feet high, make a magnificent and Indian-like appearance. The flowering stalks come forth in April, resembling those of *E. arvense*, but are twice as large, with more abundant and less distant sheaths, whose teeth are narrower and full twice as numerous as in that plant. The leafy or rather branched stems are later, their main stalk pale and scarcely furrowed, though roughish to the touch; branches very numerous from top to bottom, whorled, often subdivided, spreading, at length pendulous, slender, jointed, extremely rough, deeply marked with 4, rarely 5, furrows, as in the 2 foregoing species, but Mr. J. D. Sowerby has first observed that the intermediate angles, terminating in each tooth, are double, affording an excellent specific character. The same circumstance is observable in the angles of the sheaths to the main stem.

Ehrhart took *E. limosum* for the Linnæan *fluviatile*, there being indeed much obscurity concerning these two widely distinct species in authors, and therefore he gave the present a new name, which happily is not wanted.

Woodsia hyperborea.

POLYPODIUM hyperboreum.

Hairy Alpine Polypody.

CRYPTOGAMIA Filices.

GEN. CHAR. *Fructifications* scattered, in roundish dots, not marginal. *Involucrum* none.

SPEC. CHAR. Frond lanceolate, bluntish, pinnated: leaflets heart-shaped, pinnatifid, hairy on both sides: lobes rounded, waved.

SYN. Polypodium hyperboreum. *Sw. Fil.* 39.

P. arvonicum. *With.* 774. *Sm. Fl. Brit.* 1115. *Hull.* 238. *Syn.* 191.

P. ilvense. *With.* 774. *Hull.* 237.

Acrostichum hyperboreum. *Liljeblad in Stockh. Tr. for* 1793. 201. *t.* 8.

A. ilvense. *Huds.* 451. *Dicks. H. Sicc. fasc.* 8. 17; but not of Linnæus.

A. alpinum. *Bolt. Fil.* 76. *t.* 42.

Filix alpina, pedicularis rubræ foliis subtùs villosis. *Raii Syn.* 118.

SENT from Ben Lawers by Mr. G. Don, who informs us it is rare in Scotland, growing out of the fissures of alpine rocks, and often not above an inch high. Mr. Dickson gathered it on the same mountain. But the place where it was originally observed in Ray's time, and still grows, is on a moist black rock on Snowdon, almost at the top of the point called Clogwyn y Garnedh, looking North West. It is in perfection in July.

The root is black and tufted. Fronds from 1 to 3 inches high, linear-lanceolate, bluntish, clothed with tawny hairs, and composed of numerous, nearly opposite, sessile, short, heart-shaped, rounded, pinnatifid leaflets, whose segments are rounded and waved, without any terminal prickles or bristles. Masses of capsules red-brown, hairy, numerous, at length often confluent. This is very distinct from the real *Acrostichum ilvense*. Withering, who describes it twice over, has given the name adopted in *Fl. Brit.*, but although Mr. Liljeblad be wrong as to the genus, we gladly concur with Professor Swartz in preferring his of *hyperboreum*, as of a prior date and far more eligible in itself.

Asplenium
fontanum.

ASPIDIUM fontanum.

Smooth Rock Shield-fern.

CRYPTOGAMIA Filices.

GEN. CHAR. *Fructifications* scattered, in roundish dots, not marginal. *Involucrum* umbilicated, bursting almost all round.

SPEC. CHAR. Frond linear-lanceolate, smooth, mostly bipinnate; leaflets alternate, rounded; their segments very sharply toothed. Stalks winged. Involucrum oblong.

SYN. Aspidium fontanum. *Sw. Fil.* 57.

Polypodium fontanum. *Linn. Sp. Pl.* 1550. *Sm. Fl. Brit.* 1114. *Huds.* 456. *With.* 777. *Hull.* 238. *Villars Dauph. v.* 3. 849.

P. n. 1706. *Hall. Hist. v.* 3. 15.

Adiantum filicinum durius crispum minimum. *Barrel. Ic. t.* 432. *f.* 1.

WE have at length ascertained this fern to our satisfaction, and hasten to correct the errors respecting it in *Fl. Brit.* into which we were led by Linnæus having confounded with it a specimen that we now believe to be our *Polypodium hyperboreum*, *t.* 2023. The above synonyms are certainly correct, as, we trust, is the following information.

Mr. Hudson gathered this plant above Wybourn in Westmoreland, and received it from Agmondesham, or Amersham, church, Bucks. We have a specimen gathered by the late Mr. Aiton in the spot last mentioned, though the plant is said to be found there no longer; but this ascertains the species. The character and description of Linnæus agree with it, though not with the mistaken specimen above mentioned, whose capsules are intermixed with hairs, and which we had in view while writing *Fl. Brit.* The tufted root bears many fronds, from 2 to 6 inches high, rigid, smooth, of a somewhat glaucous green, linear-lanceolate, composed of numerous, alternate, pinnate or pinnatifid leaflets, whose lobes are very sharply toothed and slightly spinous, and all the stalks are winged. Dots at the midrib of each lobe, round, which makes the plant an *Aspidium*, though the singularly white involucrum is lateral and oblong, approaching to the nature of a *Darea*. There seems moreover some general affinity between the present fern and *Asplenium lanceolatum*, *t.* 240. One of our specimens was communicated by Mr. Dickson. We have seen no living ones.

2025

17.9.9.

Phascum cuspidatum.

June 1 1809 published by J. Sowerby London

PHASCUM cuspidatum.

Sharp-leaved Dwarf Earth-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Capsule* ovate, without any separate lid, deciduous. *Veil* minute, deciduous.

SPEC. CHAR. Stem slight. Leaves ovate, concave, hair-pointed; the upper ones folding over each other. Capsule broad-oval, nearly sessile.

SYN. Phascum cuspidatum. *Hedw. Sp. Musc.* 22. *Sm. Fl. Brit.* 1155. *Relh.* 413. *Sibth.* 273. *Abbot.* 229. *Ehrh. Crypt.* 162. *Turn. Musc. Hib.* 3.

P. acaulon. *Linn. Sp. Pl.* 1570, α. *Huds.* 466, α. *With.* 784. *Hull.* 251. *Curt. Lond. fasc.* 4. *t.* 66. • *Fl. Dan. t.* 249. *f.* 3.

Sphagnum acaulon bulbiforme majus. *Dill. Musc.* 251. *t.* 32. *f.* 11.

S. acaulon, foliis in bulbi formam congestis, majus. *Raii Syn.* 105.

COMMON on sandy or gravelly banks, heaths or neglected garden walks, in the month of March. It forms broad even patches, conspicuous enough, and readily recognized.

The root is apparently annual, though it often makes offsets. Stems short, simple, though not always solitary. Leaves pale green, almost white at their base, crowded, ovate, concave, entire, pointed, furnished with a strong mid-rib and tipped with a hair; all imbricated or folded together, except the small lower ones. Capsule on a short oblique fruit-stalk springing from a bulb, oval, broad, indeed almost globular, brown, smooth, quite concealed by the leaves. The minute veil may be seen in our figure, crowned with the style, and sticking to the top of the capsule. Some abortive flowers surround the base of the bulb.

2026
1800.

Phascum
Schreberianum

Jour. was published by J.ᵒ Sowerby London

PHASCUM Schreberianum.

Schreberian Earth-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Capsule* ovate, without any separate lid, deciduous. *Veil* minute, deciduous.

SPEC. CHAR. Stem elongated and branched. Leaves oblong, flattish, hair-pointed, erect. Capsule globose, nearly sessile.

SYN. Phascum Schreberianum. *Dicks. Crypt. fasc.* 4. 2. *Sm. Fl. Brit.* 1155.

P. cuspidatum. *Schreb. Phasc.* 8. *t.* 1. *f.* 1—5, exclusive of the quotation of Dillenius, which belongs to our *t.* 2025.

COMMUNICATED by Mr. William Backhouse, from wet barren fields near Darlington, in the spring. Mr. Dickson first distinguished this from the moss in our preceding plate, from which it seems distinct, though some of our most observing friends judge it a variety caused by luxuriance and moisture of soil.

It differs in being much larger, taller and decidedly branched, each stem, which is leafy throughout, bearing several capsules; but especially in its flatter and more elongated leaves, which often spread so as to expose the fruit. In other respects we find no material difference, and Mr. Turner thinks he has traced it, by intermediate specimens about Yarmouth, to the preceding.

2027
1798.

Phascum muticum.

Jane Wilson pinxt. *Published by J. Sowerby, London.*

PHASCUM muticum.

Common Dwarf Earth-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Capsule* ovate, without any separate lid, deciduous. *Veil* minute, deciduous.

SPEC. CHAR. Stem none. Leaves ovate, concave, closely imbricated, beardless; the upper ones serrated towards the point. Capsule globose, nearly sessile.

SYN. Phascum muticum. *Schreb. Phasc.* 8. *t.* 1. *f.* 11—14. *Sm. Fl. Brit.* 1156. *Linn. MSS. in Sp. Pl.* 1570. *Hedw. Sp. Musc.* 23. *With.* 784. *Hull.* 251. *Ehrh. Crypt.* 172. *Turn. Musc. Hib.* 3.

P. acaulon β. *Linn. Sp. Pl.* 1570. *Huds.* 466.

Sphagnum acaulon bulbiforme minus. *Dill. Musc.* 252. *t.* 32. *f.* 12.

S. acaulon, foliis in bulbi formam congestis, minus. *Dill. in Raii Syn.* 105.

VERY common upon sandy banks and heaths in winter and early spring. It is an extremely small species, though larger than *P. serratum*, *t.* 460, and growing in broad dense patches is easily observable. Its general hue is usually a more tawny and shining green than *P. cuspidatum*, *t.* 2025, with which it was formerly, but very improperly, confounded.

Root annual, creeping. Stem absolutely wanting. Leaves cohering into an oval shape resembling a little bulb, each of them ovate, concave, with a mid-rib and minute recurved point, though no terminal hair. They have been thought entire, but Mr. J. D. Sowerby has found some of the upper or inner ones more or less deeply serrated towards the point. Capsule globular, quite hidden by the leaves, very nearly sessile.

Scyphopherus
filiformis

LICHEN filiformis.

Thread-shaped Cup Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Obscurely cup-shaped, cartilaginous, greenish white. Leaves imbricated, sinuated and crenate. Stalks cylindrical, simple, scaly. Cups cylindrical, bordered with minute scarlet tubercles.

SYN. Lichen filiformis. *Ach. Prod.* 193. *With. v.* 4. 38. *Hull.* 303. *Relh.* 470. *Sibth.* 333. *Abbot.* 268.
L. pyxidatus ζ, filiformis. *Huds.* 552.
L. tubiformis. *Lightf.* 871.
Lichenoides tubulosum pyxidatum exiguum fusco-virens. *Raii Syn.* 70.
Coralloides scyphis gracilibus tubiformibus, pedicularis folio. *Dill. Musc.* 85. *t.* 14. *f.* 10.
Bæomyces bacillaris. *Ach. Meth.* 329.

A NATIVE of mountainous turfy heaths. We have gathered it on the Pentland hills, Edinburgh, as well as on Cromford moor near Matlock, and are obliged to Mr. Lyell for these specimens from the New Forest, Hants. It bears fruit at various seasons, but not frequently.

The leaves are more dilated and sinuated than in some of its allies, greenish above, white underneath. Stalks about an inch high at most, unbranched, cylindrical, hollow, scaly or mealy, terminating in very slender cups of scarcely their own diameter, whose rims are generally simple and entire, occasionally divided or toothed, bordered with a series of beautiful little uniform bright-scarlet tubercles, which turn brown with age.

Chaetomorpha vermicularis

LICHEN vermicularis.

Vermicelli Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Cartilaginous, leafless, snow-white. Stalks hollow, threadshaped, tapering at each end, acute, procumbent, subdivided.

SYN. Lichen vermicularis. *Swartz in Linn. fil. Meth. Musc.* 37. *Ach. Prod.* 205. *Dicks. Crypt. fasc.* 2. 23. *t.* 6. *f.* 10. *With. v.* 4. 41. *Hull.* 304.
L. subuliformis. *Ehrh. Crypt.* 30.
L. tauricus. *Wulf. in Jacq. Coll. v.* 2. 177. *t.* 12. *f.* 2.
L. tubulatus, nivei ferè candoris, ramosus, apicibus recurvis acutis. *Scheuchz. It. Alp. v.* 1. 137. *Dill. Musc.* 91. *t.* 15. *f.* 14, E. (not F, as erroneously printed near the bottom of *p.* 1836.)
Bæomyces vermicularis. *Ach. Meth.* 359.
Cladonia subuliformis. *Hoffm. Pl. Lich. v.* 2. 15. *t.* 29. *f.* 1—3.

FIRST observed on the Scottish mountains by Mr. Dickson. Our specimens were gathered by Mr. Turner on the top of Ben Lawers, and we have received others found on Skiddaw, Cumberland, by W. Pilkington, Esq., F.L.S. It grows on dry turfy alpine heaths among mosses. Several stems often spring from one common small root, and spread horizontally in every direction. They are snow-white, without any polish, simple or branched, tubular, round, tapering towards each extremity, so as to be often very sharp-pointed. They are somewhat zigzag, and the surface is a little pitted. Dr. Acharius thinks the fructification is unknown. Mr. Dickson represents globose lateral tubercles, and we find a similar appearance on one of Mr. Menzies's American specimens, rather resembling the young thick-edged shields of an Acharian *Parmelia*. Indeed we cannot but consider this plant as a very doubtful *Bæomyces*, for the leaves drawn by Dillenius are surely a mistake.

Arctostaphylos alpina.

Pubd as the Act directs by Jas Sowerby London.

ARBUTUS alpina.

Black-berried Alpine Arbutus.

DECANDRIA Monogynia.

GEN. CHAR. *Cal.* deeply 5-cleft. *Cor.* ovate; its orifice 5-cleft; its base transparent. *Berry* superior, 5-celled. *Anthers* with 2 pores.

SPEC. CHAR. Stems procumbent. Leaves rugged, serrated.

SYN. Arbutus alpina. *Linn. Sp. Pl.* 566. *Sm. Fl. Brit.* 442. *Huds.* 177. *With.* 399. *Hull.* 91. *ed.* 2. 121. *Lightf.* 215. *t.* 11. *fig.* a, b. *Fl. Dan. t.* 73.

Vaccinia pannonica, sive Vitis Idæa. *Ger. em.* 1416.

WE are obliged to Mr. G. Don for this wild specimen, gathered near the head of Loch Traig, Perthshire, between two high mountains, in a valley covered with common Heath, but we have been obliged to have recourse to a dried one for the flowers, scarcely to be received fresh. Still we trust our figure will not be found incorrect. The berries, which are round and black, like black currants, resembling them also, it is said, in flavour, we have not been able to procure.

The woody trailing stems spread widely, clothed with deciduous bark. Leaves deciduous, alternate, obovate, serrated, rugged with reticulated veins, smooth, except a fringe at each side of their taper base. Flowers in short terminal clusters, white, ill-drawn by Lightfoot's artist from a dry specimen, and not well in the *Flora Danica*. Each flower-stalk has an elegant, concave, reddish, fringed bractea at its base.

We have already observed, in *v.* 10. *p.* 714, that Ray confounded the synonyms of this plant with those of *Arbutus Uva-ursi*, nor was Dillenius able to set him right.

Hieracium sylvaticum.

HIERACIUM sylvaticum.

Wood Hawkweed.

SYNGENESIA Polygamia-æqualis.

GEN. CHAR. *Recept.* nearly naked, dotted. *Cal.* imbricated, ovate. *Down* simple, sessile.

SPEC. CHAR. Stem branched, many-leaved. Leaves ovato-lanceolate, toothed chiefly about the base, the teeth pointing forward.

SYN. Hieracium sylvaticum. *Sm. in Tr. of Linn. Soc. v.* 9. 239. *Gouan. Obs.* 56, by the description. *With.* 687. *Galpine*, 67.

H. murorum. *Ehrh. Herb.* 147. *Allion. Ped. t.* 28. *f.* 1. *Sm. Fl. Brit. α.* 830.

H. murorum, folio pilosissimo. *Raii Syn. ed.* 2. 74. *ed.* 3. 168.

THE history of this plant and *H. murorum*, somewhat confused, in consequence of old mistakes, in *Fl. Brit.* is explained in the Linnæan Society's Transactions, vol. 9, more fully than we can here repeat. It is only necessary to say that the synonyms of Ray, Gerarde and Petiver, *Fl. Brit.* 831, actually belong, not to this Hawkweed, but to *Cineraria integrifolia*, as is proved by a specimen from Dr. Lamb of Newberry.

The plant before us was gathered by Mr. E. Forster in Epping forest near Highbeach. It is however not uncommon in various parts of the kingdom, in dry chalky woods, or on old park walls, flowering usually in July, and again late in autumn, like the more rare *H. murorum*, of which we hope another season to obtain a drawing. The root is perennial, slender, slightly creeping, with long simple fibres. Herb hairy, of a pale grass green. Stem more or less branched, round, panicled, bearing several alternate long-stalked leaves, whose form is lanceolate inclining to ovate, acute, most toothed about their lower half, the teeth either direct or pointing forwards, not backwards. Flowers of a full lemon, not orange, yellow, rather small, their calyx rough, rather more cylindrical than ovate.

H. murorum γ Fl. Brit. 830, if not a distinct species, which we much suspect, is rather a variety of this.

Carpinus Betulus.

CARPINUS Betulus.

Horn-beam.

MONOECIA Polyandria.

GEN. CHAR. Male, *Cal.* the scale of a catkin, roundish. *Stam.* 8—20. Female, *Cal.* toothed. *Styles* 2. *Nut* of 1 cell, closely invested with the angular calyx.

SPEC. CHAR. Bracteas of the fruit oblong, serrated, flat, with two lateral lobes.

SYN. Carpinus Betulus. *Linn. Sp. Pl.* 1416. *Sm. Fl. Brit.* 1029. *Huds.* 422. *With.* 442. *Hull.* 213. *Relh.* 378.

Ostrya ulmo similis, fructu in umbilicis foliaceis. *Raii Syn.* 451.

THE Hornbeam thrives on a rather meagre clayey damp soil, such as Epping forest and Finchley common, where it abounds, flowering in April. Linnæus justly observes that the wood is white, very tough, and harder than hawthorn. The tree is of a humble size, densely branched, and bears cutting, qualities which render it fit for garden hedges in the north of Europe. The inner bark dyes yellow.

The surface of the bark is smooth, and pale grey. Leaves alternate, stalked, ovate or somewhat heart-shaped, pointed, doubly serrated, thin, smooth, with very straight parallel veins hairy at their origin. Male catkins from short lateral shoots, pendulous, tawny, composed of large, roundish or ovate, acute, entire, fringed scales, accompanied by several internal, smaller ones. Stamens about 8, 10 or 12; Linnæus says, sometimes 16. Female flowers in a terminal, loose, pendulous, bracteated cluster rather than a catkin, each bractea accompanied by several narrow internal deciduous ones. The flowers are in 2 parcels, (2 or 3 in each,) at every bractea. Calyx minute. Styles 2, capillary. As the fruit ripens, the evident nature of the cluster or *racemus* appears. Each flower has its separate stalk. Each bractea is enlarged, 3-cleft, serrated, leafy, veiny and permanent, with a sessile ovate nut at its base, which is tipped with the permanent base of the styles, and closely enveloped with the enlarged angular calyx, whose teeth crown its summit.

2033.
1652.

Tortula muralis.

Published by Jas. Sowerby, London.

TORTULA muralis.
Wall Screw-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple; of numerous capillary teeth, spirally and repeatedly twisted together.

SPEC. CHAR. Stem mostly simple, very short. Leaves ovate, acute, hair-pointed. Capsule cylindrical, slightly elliptical. Lid conical.

SYN. Tortula muralis. *Hedw. Sp. Musc.* 123. *Sm. Fl. Brit.* 1256. *Sibth.* 284. *Turn. Musc. Hib.* 50.

Bryum murale. *Linn. Sp. Pl.* 1581. *Huds.* 477. *With.* 811. *Hull.* 256. *Relh.* 423. *Abbot.* 240.

B. tegulare humile, pilosum et incanum. *Dill. Musc.* 355. *t.* 45. *f.* 14.

B. minus, erectis minùs falcatis capitulis, foliis latiusculis congestis, in pilum canescentem desinentibus. *Raii Syn.* 94.

NOTHING can be more plentiful than this *Tortula* upon walls and roofs. It is perhaps the most common of all mosses, and is known by the hoary appearance which the terminal white hairs, various in length, give to its deep-green leaves, and by the numerous brown capsules, nearly erect, and slightly elliptical, with a reddish fringe of moderate length, which appear in profusion throughout the spring.

The roots are perennial. Stems very short, though sometimes divided. Leaves crowded, spreading, flattish, ovate, or oblong-obovate, acute, entire, with a single rib. The terminal hair is sometimes almost wanting, in which state we have found the plant this year at Charlton. Fruitstalk terminal, straight, reddish brown. Old capsule a little curved, when the fringe falls off. Lid red, conical, not half so long as the capsule, slightly oblique. Veil awlshaped, slender, brownish.

Hypnum Swartzii

HYPNUM Swartzii.

Swartzian Feather-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* ovate-oblong, from a lateral scaly sheath. *Outer fringe* of 16 teeth, dilated at the base: *inner* a variously-toothed membrane. *Veil* smooth.

SPEC. CHAR. Stem procumbent, much branched. Leaves obscurely two-ranked, remote, ovate, finely serrated, single-ribbed. Lid awlshaped, curved. Stalk rough.

SYN. Hypnum Swartzii. *Turn. Musc. Hib.* 151. *t.* 14. *f.* 1. *Sm. Fl. Brit.* 1293.
H. atro-virens. *Swartz. Musc. Suec.* 65; exclusive of the synonyms.

MR. TURNER received this originally from Ireland. Our specimens were gathered by S. Hailstone, Esq. in Bell-bank wood, near Bingley, Yorkshire.

The stems are procumbent and creeping, much and irregularly branched, divaricated and loosely spreading, very slender, leafy. Leaves of a more or less deep green, remote, not imbricated, spreading, not very accurately, in two rows, ovate, acute, slightly concave, single-ribbed, finely and sharply serrated. Sheath pale, of numerous, recurved, lanceolate, serrated scales. Fruit-stalks scarcely an inch long, erect, crimson, rough with minute tubercles. Capsule ovate, short, smooth, drooping. Lid awlshaped, taper, the length of the capsule, slightly curved. Fringe of a tawny yellow.

It has been lately suggested to us that this may be only a variety of *H. prælongum, t.* 2035, the difference in the disposition of their leaves being, certainly, very slight. We cannot, however, be convinced that Mr. Turner's variety β, whose fructification we have not seen, is the same species with either.

Hypnum pinetongum

July 1.1803 published by J.T. Sherrity London

HYPNUM prælongum.

Long Trailing Feather-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* ovate-oblong, from a lateral scaly sheath. *Outer fringe* of 16 teeth, dilated at the base: *inner* a variously-toothed membrane. *Veil* smooth.

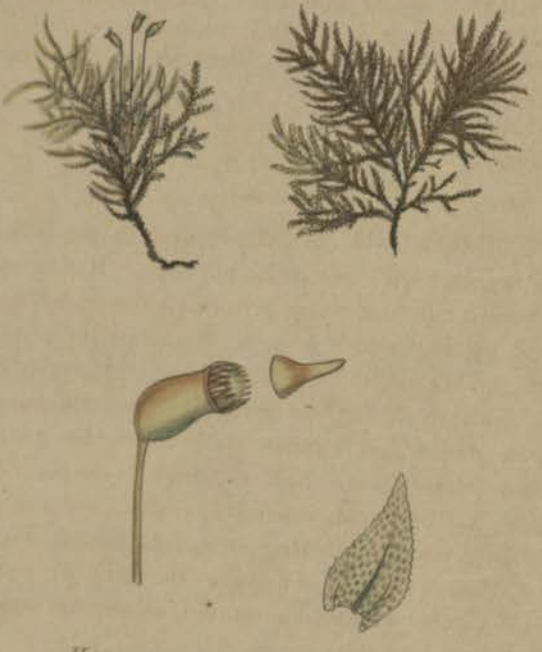
SPEC. CHAR. Stem pinnate, creeping. Leaves spreading every way, ovato-lanceolate, pointed, serrated, single-ribbed. Lid awlshaped, curved. Stalk rough.

SYN. Hypnum prælongum. *Linn. Sp. Pl.* 1591. *Sm. Fl. Brit.* 1299. *Hedw. Sp. Musc.* 258. *Crypt. v.* 4. 76. *t.* 29. *Huds.* 499. *With.* 855. *Hull.* 271. *Relh.* 434. *Sibth.* 295. *Abbot.* 248.

H. repens filicinum, triangularibus parvis foliis, prælongum. *Raii Syn.* 80. *Dill. Musc.* 278. *t.* 35. *f.* 15.

THIS species of *Hypnum* is frequent in moist woods, especially on a sandy or gravelly soil, and about the shady bottoms of hedges, where the morning dew, glistening among its leaves, renders it, at that time, particularly apparent. The long, slender, branched and pinnated stems creep closely over rotten wood or bark, spreading in every direction. The lateral branches are scarcely an inch long, and usually simple. Leaves small, of a pale yellowish green, rarely dark-green, spreading loosely every way, lanceolate or slightly ovate, pointed, sharply serrated, with a solitary pale-green nerve. Sheaths solitary, of several loosely recurved ovate leaves, with serrated points. Fruitstalks solitary, rather above an inch long, crimson, rough with very minute tubercles. Capsule drooping, ovate, or slightly cylindrical, a little curved. Lid awlshaped, curved, rather shorter than the capsule. Veil acute, of a pale green.

1654



Hypnum Stokesii

Pubd. as the Act directs by J.ᵉˢ Lowdy London.

HYPNUM Stokesii.

Alpine Trailing Feather-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* ovate-oblong, from a lateral scaly sheath. *Outer fringe* of 16 teeth, dilated at the base: *inner* a variously-toothed membrane. *Veil* smooth.

SPEC. CHAR. Stem pinnate. Leaves spreading every way, heartshaped, pointed, minutely serrated, single-ribbed. Capsule ovate, drooping. Lid conical, pointed.

SYN. Hypnum Stokesii. *Sm. Fl. Brit.* 1300. *Turn. Musc. Hib.* 159. *t.* 15. *f.* 2.

DISCOVERED by Dr. Whitley Stokes in the hollows of rocks under the eagle's nest at Lough Bray. Having received from Professor Swartz more perfect specimens of the fruit than had previously been seen, we have annexed a branch of his plant. This species appears intermediate between *H. umbratum*, with which it agrees much in leaves and habit, and *H. prælongum*, which it more nearly approaches in dimensions and fructification. Still we think it cannot be united to either. Dr. Swartz names it *H. Ludwigii* of Bridel, and we have been told it is *H. strigosum* of Hoffmann, *Fl. Germ. v.* 2. 76. These authorities may, by the right of priority, to which in this case we ought to submit, disturb our name, but they confirm our species.

Our plant has loosely creeping stems, with crowded pinnate or bipinnate branches. Leaves imbricated every way, spreading, of a full but bright green, somewhat shining, heartshaped, twisted, sharp-pointed, single-ribbed, not always to the extremity, more closely and finely serrated than in *H. prælongum*. Sheaths whitish. Stalks red, an inch long, scarcely rough except towards their base. Capsule drooping, ovate. Lid conical, curved, pointed, rather thicker, if we mistake not, than in the *prælongum*, *t.* 2035.

1554

Hypnum abietinum.

Published by J. Sowerby, London.

HYPNUM abietinum.

Fir-branched Feather-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* ovate-oblong, from a lateral scaly sheath. *Outer fringe* of 16 teeth, dilated at the base: *inner* a variously-toothed membrane. *Veil* smooth.

SPEC. CHAR. Stem pinnate, shaggy. Leaves closely imbricated every way, heart-shaped, pointed, nearly entire, with one rib and two plaits. Capsule drooping. Lid conical.

SYN. Hypnum abietinum. *Linn. Sp. Pl.* 1591. *Sm. Fl. Brit.* 1300. *Hedw. Sp. Musc.* 353. *Crypt. v.* 4. 84. *t.* 32. *Huds.* 500. *With.* 855. *Hull.* 271. *Relh.* 435. *Sibth.* 296. *Abbot.* 246. *Necker Musc.* 163.

H. lutescens, alis subulatis tenacibus. *Dill. Musc.* 280. *t.* 35. *f.* 17.

H. repens filicinum trichoides montanum, ramulis teretibus lutescentibus non divisis. *Dill. in Raii Syn.* 86.

NOT unfrequent on the dry chalky hills of Kent, Oxfordshire, &c., but the fructification is so extremely rare that Dillenius never saw it, and Necker, though he quotes the place where Linnæus describes it, asserts that it cannot be found. Our specimens of the fruit were sent by Professor Swartz.

The stems are about as long as the finger, decumbent, densely, and generally simply, pinnate, the branches short, acute, spreading. Leaves of a pale tawny opaque green, close-pressed, heartshaped, or broad ovate, sharp-pointed, entire or nearly so, a little revolute when dry, with one rib and two lateral plaits. Their reticulations seem to be elongated by age. Among the leaves the stem is clothed with dense branched jointed fibres, varying in length. Sheaths slender, close, pale. Fruitstalks 2 inches long, wavy, crimson, shining. Capsule inclining, ovato-cylindrical, curved, tinged with red, very minutely reticulated. Outer fringe red; inner yellow. Lid, according to Hedwig, conical.

Longman, Hurst, Rees, Orme & Brown, London.

LEPRARIA chlorina.

Bright-sulphur Lepraria.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* in a powdery substance loosely clothing a thin crust.

SPEC. CHAR. Bright sulphur-coloured. Crust fibrous. Fructification in small round clusters.

SYN. Lepraria chlorina. *Ach. Lichenogr. ined.*

Lichen chlorinus. *Ach. Prod.* 6.

Pulveraria chlorina. *Ach. Meth.* 1. *t.* 1. *f.* 1. *Westring Lich.* 1. *t.* 1.

THIS production, one of the most elegant and striking of its tribe, was discovered by Mr. Dickson, as he informs us, long ago in Scotland. Mr. Turner observed it in 1807, on rocks behind the inn at Avemore in Strathspey, and from that neighbourhood Mr. Borrer and Mr. Hooker sent our present specimens.

The vivid greenish-lemon hue is remarkable, and even more striking than *L. flava, t.* 1350, nor is it at all impaired by keeping. The crust or basis of the plant consists of minute entangled fibres, making a thick soft cushion-like mass, and bearing innumerable little crowded roundish powdery clusters.

The true nature of the fructification is so little known, that we rejoice to hear the learned Professor Acharius, whose specimens accord with ours, has reduced his genus *Pulveraria* to *Lepraria*, the latter being at best but obscure in its mode of propagation.

Dr. Westring, author of a most curious work on the dyeing properties of Swedish Lichens, with figures by the hand of Professor Acharius himself, has obtained a variety of very vivid tints from this *Lepraria*.

Collema fluviatili.

Jefferys published 1st Oct.

LICHEN fluviatilis.

River Gelatinous Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Gelatinous, thick, imbricated, greenish-black; its segments obovate or linear, convex, proliferous, channelled beneath. Shields globose, concave, brown.

SYN. Lichen fluviatilis. *Huds.* 536. *With. v.* 4. 77. *Hull.* 301.
Lichenoides gelatinosum, foliis angustioribus tuniformibus. *Dill. Musc.* 142. *t.* 19. *f.* 28.
L. gelatinosum opuntioides. *Dill. in Raii Syn.* 72.
Parmelia? fluviatilis. *Ach. Meth.* 249.

MALHAM-COVE in Yorkshire afforded this rare plant to Dr. Richardson, the friend of Dillenius, and from the same romantic and celebrated spot our specimens were obligingly communicated by Samuel Hailstone, Esq. It grows on calcareous stones in the rivulet which issues from the base of the surrounding rocks. Dillenius relates that he had himself gathered the same in the alpine torrents of Snowdon.

The fronds are of a very dull dark olive, almost black, tufted and crowded, gelatinous, but thick and not membranous. Segments more or less imbricated, oblong, or more frequently obovate, occasionally notched; convex above; channelled underneath. They grow in a proliferous manner, and are sometimes granulated. Shields lateral, small, globular, externally like the frond in colour, with a paler smooth border, and concave reddish-brown disk.

2040
2253

Alectoria sarmentosa?

Jelyeung published by Jas Sowerby London.

LICHEN sarmentosus.

Trailing Filamentous Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Filamentous, hollow, pitted, whitish, repeatedly branched, somewhat forked and divaricated; ultimate branches capillary. Shields scattered, lateral, sessile, concave, greenish flesh-colour, with a pale entire border.

SYN. Lichen sarmentosus. *Ach. Prod.* 180.
L. longissimus, ex cinereo candicans, rugosus et mollior, receptaculis florum rufescentibus. *Mich. Gen.* 77. *t.* 39. *f.* 2.
Usnea loris longis dichotomis, extremitatibus tenuioribus. *Dill. Musc.* 59. *t.* 11. *f.* 2; copied from Micheli.
U. dichotoma. *Hoffm. Pl. Lich. t.* 72.
Parmelia sarmentosa. *Ach. Meth.* 271.

FOUND, for the first time in Britain, by Messrs. Hooker and Borrer in 1808, on the Scottish mountains of Ben Luyhal, Sutherland, and Cairn-gorm, Inverness-shire.

It grows sometimes on old trunks of trees, more rarely on rocks, and is a very distinct species from all the filamentous Lichens we have hitherto described. The fronds are of an ivory white, creeping, much branched and divaricated, irregularly pitted, and sometimes powdery, on the surface, hollow, without any central thread; their ultimate branches very fine and numerous. Shields, which we have received from Dr. Acharius only, small, lateral, sessile, with a hollow, greenish, somewhat flesh-coloured, disk, and a smooth elevated border, of the substance of the frond.

Carex pauciflora.

Lobelia pauciflora by J. Sowerby, London.

CAREX pauciflora.
Few-flowered Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Cathin* imbricated. *Cal.* of one scale. *Cor.* none. Female, *Cathin* imbricated. *Cal.* of one scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Spike simple, of few flowers, the upper one male. Fruit spreading, awlshaped. Stigmas three.

SYN. Carex pauciflora. *Lightf.* 543. *t.* 6. *f.* 2. *Sm. Fl. Brit.* 966. *Gooden. Tr. of L. Soc. v.* 2. 143. *With.* 87. *Hull.* 204. *Dicks. H. Sicc. fasc.* 1. 16. *Winch Guide, v.* 1. 83.

C. patula. *Huds.* 402 and 657.

C. Leucoglochin. *Linn. Suppl.* 413. *Ehrh. Phyt. n.* 8.

THIS rare little Carex had been found in no other part of Britain than Scotland, till Mr. Winch met with it in June 1803 in Northumberland. It grows on peat bogs, flowering early in that month.

Root creeping, scaly. Stems from 3 to 5 inches high, erect, bowed at the base, smooth, obscurely triangular. Leaves about 2 embracing the base of each stem, channelled, smooth, much shorter than the stems. Spike solitary, erect, of from 4 to 6 flowers, of which the upper one only is a male, and upright; the rest are females, a little spreading, and at length reflexed. Scales lanceolate, of a pale rust-colour. Fruit of the same hue, tapering, somewhat triangular, furrowed. Stigmas three; Lightfoot says they are occasionally but two.

We prefer the original name of Lightfoot, to the hard Greek one, foisted into the *Supplementum Plantarum* by Ehrhart, as he superintended the press, without Linnæus's knowledge.

CAREX intermedia.

Soft Brown Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Spikelets crowded into a common spike; the lower and upper ones female; the intermediate ones male. Stem acutely triangular, erect.

SYN. Carex intermedia. *Gooden. Tr. of Linn. Soc. v.* 2. 154. *Sm. Fl. Brit.* 972. *With.* 91. *Hall.* 205. *Dicks. H. Sicc. fasc.* 7. 15.

C. disticha. *Huds.* 403. *Relh.* 364. *Sibth.* 26. *Abbot.* 202.

Gramini cyperoidi ex monte Ballon simile, spicâ totali e pluribus spicis compositâ. *Raii Syn.* 423.

NOT unfrequent in marshy meadows and other watery places, flowering in May and June.

Root creeping, running deep into the ground. Stems upright, straight, 12 or 18 inches high, triangular, with very sharp, more or less unequal, angles, leafy at the bottom only. Leaves few, nearly upright, shorter than the stem, acute, almost flat, a little rough at the edges and keel. Spike oblong, bluntish, of a rusty brown, soft to the touch, but little compressed and by no means two-ranked, composed of numerous, crowded, ascending, ovate spikelets, of which 2 or 3 of the lowermost, and 1 or 2 of the uppermost, are almost entirely female, the rest nearly as completely, but not absolutely, male. In each spikelet the male flowers are always uppermost. Bracteas ovato-lanceolate, membranous, brown, white-edged; the lowest ending in a leafy point. Glumes ovate, acute, brown, with a pale nerve and white edge. Fruit ovate, acute, winged, rough-edged, with a cloven point. Stigmas 2, sometimes 3.

2043.
1279.
Carex limosa.

CAREX limosa.

Green and gold Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Sheaths extremely short, scarcely any. Female spikes ovate, pendulous. Fruit elliptical, compressed. Root creeping.

SYN. Carex limosa. *Linn. Sp. Pl.* 1386. *Sm. Fl. Brit.* 986. *Gooden. Tr. of Linn. Soc. v.* 2. 187. *Huds.* 409. *With.* 103. *Hull.* 208. *Lightf.* 556. Cyperoides spicâ pendulâ breviore, squamis e spadiceo vel fusco rutilante viridibus. *Scheuchz. Agr.* 443. *t.* 10. *f.* 13.

THIS, one of our most elegant species of Carex, especially from the bronze hue of its spikes, is found only in deep black rotten bogs, chiefly in Scotland and the north of England. Mr. G. Don sent it from near Forfar. The late Rev. Mr. Bryant and Mr. Woodward have found it a few miles north of Norwich, in a tract of country once rich in botanical treasures, but now more useful to the farmer. It flowers in June, but rarely, at least in Norfolk.

The long creeping perennial roots, sheathed with black scales, send very long woolly fibres down deep into the mud. The herbage is rather glaucous. Stems ascending, triangular, a span high, rough, leafy at the base. Leaves narrow, acute, keeled, rough-edged, shorter than the stems. Bractea like the leaves but much smaller, with a brown, abrupt, white-edged, very short sheath. Male spike terminal, erect, lanceolate, with many elliptical acute glumes, of a brown and golden hue. Female spikes 1 or 2, on longish, smooth, drooping stalks, ovate, of many broadly elliptical acute scales, variegated with green, brown and gold. Fruit elliptical, broad, compressed, glaucous, ribbed, smooth, with scarcely any beak. Stigmas 3. Germen and seed triangular, scarcely compressed.

1283.

Carex atrata.

CAREX atrata.

Black Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Stamens two or three. Sheaths scarcely any. Spikes ovate, stalked, pendulous; the terminal one male in the lower part. Fruit compressed. Root fibrous.

SYN. Carex atrata. *Linn. Sp. Pl.* 1386. *Sm. Fl. Brit.* 987. *Gooden. Tr. of Linn. Soc. v.* 2. 189. *Huds.* 409. *With.* 105. *Hull.* 208. *Lightf.* 555. *Dicks. Dr. Pl.* 87. *Fl. Dan. t.* 158.

Cyperoides alpinum pulchrum, foliis caryophyllæis, spicis atris et tumentibus. *Scheuchz. Agr.* 481. *t.* 11. *f.* 1, 2.

GATHERED by Mr. G. Don on rocks in Breadalbane. Mr. Lightfoot says it is frequent on the Highland mountains, and Mr. Hudson on the Welch ones; but we have reason to think they did not then distinguish all the species, so well explained in the present Bishop of Carlisle's excellent paper, especially his Lordship's *rigida* and *pulla*.

C. atrata is, of course, perennial, flowering in June and July. It is one of the larger and more conspicuous alpine species, nor can it be overlooked. The root is fibrous, tufted, hardly creeping. Stem erect, a foot and more in height, triangular, striated, scarcely rough-edged, naked except the bottom. Herbage of a bright grass green. Leaves broad, flat, rough-edged, shorter than the stem. Bracteas leafy, with auricles rather than any sheaths. Spikes mostly 4, on smooth stalks, ovate, thick and obtuse, soon pendulous, formed of numerous ovate, acute, very dark scales. The terminal one consists of several male flowers in its lower part, the upper ones, as well as all the flowers of the other spikes, being female, except that stamens are now and then found in the same flower with a pistil. The stamens are usually thought to be 2, but Mr. Sowerby often finds 3. Stigmas always 3. Fruit elliptical, broad, compressed, yellowish, smooth, ribless, with a very short notched beak. Seed triangular, short, brown.

1265.

Carex pulla

Engraved & published by J. Sowerby London

CAREX pulla.

Russet Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Stigmas two. Sheaths none. Spikes ovate; the lower one stalked. Fruit elliptical, inflated, with a short notched beak.

SYN. Carex pulla. *Gooden. Tr. of Linn. Soc. v.* 3. 78. *t.* 14. *Sm. Fl. Brit.* 988. *Hull.* 208.

COMMUNICATED wild from the mountain of Ben Lawers by our lamented friend Mr. J. Mackay, at different times, several years ago. It flowers in July, and is perennial.

Root creeping, with thick fibres. Stem ascending or erect, about a span high, triangular, striated, the angles rough in the upper part. Leaves nearly erect, flat, rough-edged. Bractea leafy, rough-edged, embracing the stem, but not forming a sheath. Male spike terminal, upright, lanceolate, of numerous triandrous flowers. Female spikes mostly two, remote, ovate, erect, the lowermost on a rough slender stalk which varies in length; the upper one almost sessile, shortened as it were, and often wanting. Glumes all elliptic-lanceolate, obtuse, dark-brown, with a thin narrow pale edge and an obsolete nerve. Fruit rather spreading, longer than the corresponding glume, elliptical, inflated, smooth, without ribs, pale at the base, of a dark shining brown at the summit when ripe, and terminating in a short cloven beak. Stigmas two, acute. Seed triangular.

2040

1203.

Carex tomentosa.

Engraved by Richd. Fitter, London.

CAREX tomentosa.

Downy-fruited Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Sheaths extremely short. Female spikes nearly sessile, cylindrical, obtuse. Glumes elliptical, acute. Fruit downy.

SYN. Carex tomentosa. *Linn. Mant.* 123. *Sm. Fl. Brit.* 996. *Tr. of Linn. Soc. v. 5.* 269. *Leers.* 200. *t.* 15. *f.* 7. *Dichs. Dr. Pl.* 43.

THE late Mr. Robert Teesdale, F.L.S., a most acute and indefatigable British botanist, is the only person, to the best of our knowledge, who ever gathered this species of Carex in Britain. He found it, flowering in June, in meadows near Merstone Measey, Wiltshire, in 1799, and thus its name is restored to the list of British plants, from which it had been erased since the learned Bishop of Carlisle discovered the *C. tomentosa* of Lightfoot and Hudson to be the Linnæan *filiformis*.

The root creeps, with long and compound fibres. The stems are a foot or more in height, erect, naked, with three sharp angles rough upwards. Leaves shorter than the stem, upright, flat, grass-green, rough on both sides and at the edges. Bracteas leafy, rather spreading, the longest rising somewhat above the stem, with scarcely any sheath. Male spike lanceolate, bluntish, with lanceolate, rusty scales having green keels, the upper ones occasionally pointed. Female spikes usually two, not very distant, almost sessile, cylindrical, blunt, various in length, their glumes elliptic-ovate, slightly pointed, rusty with broad green keels. Fruit about as long as the scales, crowded, roundish, scarcely at all compressed and but slightly triangular, green clothed with short dense whitish down, which turns tawny by long keeping. The beak is short and cloven. Seed pale, obscurely triangular.

Carex rigida

Published by J.E. Sowerby, London.

CAREX rigida.
Rigid Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Stigmas two. Sheaths none. Spikes ovate; the upper ones sessile. Leaves rigid and somewhat recurved. Fruit rather compressed, entire.

SYN. Carex rigida. *Gooden. Tr. of Linn. Soc. v.* 2. 193. *t.* 22. *f.* 10. *Sm. Fl. Brit.* 997. *With.* 106. *Hull.* 208.

C. saxatilis. *Fl. Dan. t.* 159.

Cyperoides germanicum, foliis brevibus rigidis acutis, caule rotundo-triquetro, spicis parvis, squamis obtusè mucronatis, capsulis oblongis turbinatis, in angustum et longiusculum apicem attenuatis. *Mich. Gen.* 61. *t.* 32. *f.* 4.

WHEN I showed the late Mr. Hudson my original specimen of this Carex, gathered on the top of Ben Lomond in 1782, and called *saxatilis* by the Scottish botanists, he told me he had found the same on Snowdon. It is not however his *saxatilis*, which is *præcox* of *Fl. Brit.* The present Bishop of Carlisle first clearly distinguished and named the plant before us. Mr. Mackay sent our specimen.

It grows on the exposed summits of the loftiest mountains, flowering in June or July, and is known by its rigid firm habit and recurved leaves. The root is creeping, with thick downy fibres. Stem from 3 to 6 inches high, mostly incurved, with three sharp rough angles. Leaves rigid, somewhat glaucous, permanent, with rough edges and keel. Bractea generally shorter than the stem, auricled at the base. Male spike mostly solitary, short, thick, ovate, blunt, with abrupt pointless glumes of a dark brown, with a pale narrow keel. Female spikes generally 3, ovate, the 2 upper ones sessile near the male; the other distant, on a short stalk, erect, with elliptical blunt glumes. Fruit crowded, compressed, smooth, longer than the glumes, brown where exposed, entire, sometimes beaked. Stigmas 2.

2042
2163

Parmelia stygia?

LICHEN stygius.

Stygian Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

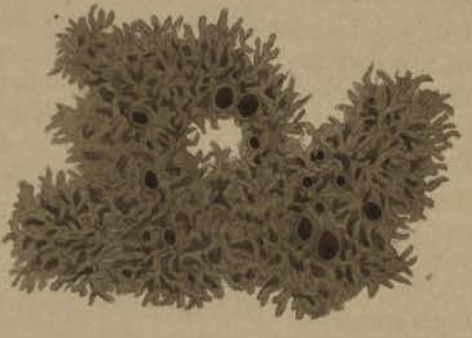
SPEC. CHAR. Imbricated; its segments linear, zigzag, many-cleft and somewhat palmate, solid, convex on both sides, of a shining pitchy black, with white warts; and with black radicles beneath. Shields of the same hue, with a thin crenate border.

SYN. Lichen stygius. *Linn. Sp. Pl.* 1610. *Fl. Suec.* 411. *Ach. Prod.* 109. *Dicks. Crypt. fasc.* 3. 16. *H. Sicc. fasc.* 2. 25. *With. v.* 4. 30. *Hull.* 293.
Squamaria stygia. *Hoffm. Pl. Lich. v.* 2. 3. *t.* 25. *f.* 1.
Parmelia stygia. *Ach. Meth.* 203.

WE received this many years ago from the Highlands of Scotland by favour of the Rev. Dr. Stuart, and Mr. Dickson has found it in the same country, growing on elevated exposed rocks.

It has been thought not easily distinguishable from *L. fahlunensis, t.* 653, with which it agrees in forming entangled tufts, of a pitchy black, occasionally tinged with olive; but it differs essentially in being convex on both sides, of a considerable thickness, white and solid internally, and smooth-edged. The extremities are lobed or palmate, rather paler than the other part. Under side very black, producing numerous scattered radicles. Several minute white mealy specks, like cracks, are found here and there on the upper surface. Shields few, of the colour of the leaf, with a thin, crenate, or somewhat beaded, border.

2049



Parmelia incausta?

LICHEN encaustus.

Encaustic Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Imbricated; its segments linear, wavy, tumid, constricted, repeatedly forked, solid, convex on both sides; of a dirty unpolished white, with black specks, above; black, opaque, wrinkled, without radicles, beneath. Shields reddish-brown.

SYN. Lichen encaustus. *Sm. Tr. of L. Soc. v.* 1. 83. *t.* 4. *f.* 6. *Ach. Prod.* 123.
L. multipunctus. *Ehrh. Crypt.* 305.
Squamaria pulla. *Hoffm. Pl. Lich. v.* 2. 28. *t.* 32. *f.* 2.
Parmelia encausta. *Ach. Meth.* 202.

SENT from Ben Nevis by the Rev. Dr. Stuart as a distinct species from the preceding, with which every British botanist besides, even Mr. Dickson in his *H. Sicc.* has confounded it. This is not at all to be wondered at. We plead guilty to the same charge, nor is it till after the most careful comparison of a series of specimens, that we are satisfied the dirty ill-looking Scottish plant can be the same with our elegant alpine one, to which, from its appearance of having been enamelled white, as with fire, on a black ground, the name of *encaustus* was originally given.

The segments vary prodigiously in breadth, as well as in the smoky white of the upper side. They are distinguished from *L. stygius* by numerous black dots on that side, and by the blueish-black wrinkled under one, destitute of radicles, and pale at the ends. The shields vary in hue from a bright bay to a deep chesnut. Their border is whitish, inflexed and crenate.——Hoffmann mistook this Lichen for Lightfoot's *pullus*, our *aquilus*, *t.* 982.

Parmelia sinuosa

LICHEN sinuosus.

Sinuous Imbricated Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Imbricated, radiated, membranous, smooth, of a sulphureous grey; black with dense fibres beneath; its segments pinnatifid, with dilated cloven lobes and circular sinuses. Shields brown, with a thin, smooth, entire, grey border.

THE late Mr. James Burgess Mac-Garroch, only son of the discoverer of *Lichen Burgessii*, *t.* 300, sent us this *Lichen* so long ago as August 1781, saying it was "common on moor-stones in Dumfriesshire," but without fructification. We have always thought it new, and a more extensive knowledge of the subject, by correspondence with Dr. Acharius and others, has but confirmed that opinion. Mr. Turner and Mr. W. J. Hooker gathered it on old walls at Ballacheulish. Mr. Menzies communicated a specimen of the same, on the bark of a tree from Nova Scotia, to which we have had recourse for the shields.

The fronds spread circularly, in a radiating form, in flat patches several inches wide, and are thin, membranous, smooth, even, of a very pale sulphureous grey, more or less smoky, on the upper side, transversely cracked when old; the under surface is clothed with very black, dense, rigid, branching fibres, visible beyond the edges. The lobes are somewhat linear, pinnatifid, branched and dilated outwards, strikingly distinguished by the roundness of their sinuses; the ends are abrupt and cloven. Shields when present numerous, slightly elevated, as broad as a vetch-seed or small pea, thin; their disk flattish, dark-brown; their border of the substance and colour of the frond, peculiarly thin, smooth and even.

This species ranges near the *centrifugus* and *conspersus* of Acharius.

208
2294

Scyphophorus cocciferus.

Engraved and published by J. Edwards, London.

LICHEN cocciferus.

Scarlet Cup Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Cup-shaped, leathery, pale greenish-grey, mealy. Cups dilated, somewhat toothed. Tubercles fungous, scarlet. Leaves minute, lobed and crenate.

SYN. Lichen cocciferus. *Linn. Sp. Pl.* 1618. *Ach. Prod* 187. *With. v.* 4. 89. *Hull.* 304. *Relh.* 469. *Sibth.* 332. *Abbot.* 269. *Ehrh. Crypt.* 168.
L. pyxidatus *ι*. *Huds.* 553.
Lichenoides tubulosum pyxidatum, tuberculis amœnè coccineis. *Raii Syn.* 69.
Bæomyces cocciferus. *Ach. Meth.* 331.
Coralloides scyphiforme, tuberculis coccineis. *Dill. Musc.* 82. *t.* 14. *f.* 7.

THIS truly beautiful production of Nature is by no means uncommon in woods, or on heaths, among ling, and in various dry sandy turfy places, appearing to greatest advantage in the wet wintry months. It varies much in size and figure, like all its tribe, and some have thought even its distinguishing character of the scarlet tubercles a mere variation of *L. pyxidatus, t.* 1393. It seems to us however a distinct species, the foliage being more lobed and less imbricated, the stems more mealy and less leafy, the colour of the whole usually paler and less glaucous, and the scarlet tubercles more numerously and regularly disposed, either sessile or on stalks, round the cups. Acharius says these tubercles dye wool and silk of an exquisite colour.

How far this species differs from *L. bellidiflorus*, may be seen in *v.* 27. *t.* 1894.

2032

2270

Scyphophorus parasiticus.

LICHEN delicatus.

Delicate Spurious Cup Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

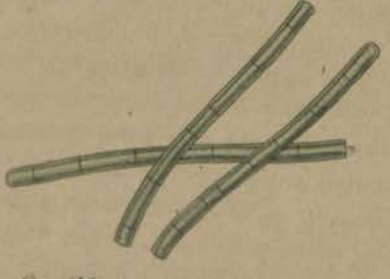
SPEC. CHAR. Leaves very minute, stalked, many-cleft, crisped, jagged, mealy, glaucous grey. Fruit-stalks compressed, simple or divided. Tubercles clustered, tumid, pale brown; at length black.

SYN. Lichen delicatus. *Ehrh. Crypt.* 247. *Ach. Prod.* 199.
L. parasiticus. *Hoffm. Enum.* 39. *t.* 8. *f.* 5.
Bæomyces delicatus. *Ach. Meth.* 327.

COMMUNICATED to us by Mr. W. Borrer, who observed it on rotten rails in St. Leonard's forest, Sussex, for the first time in Britain. His specimens agree with the original one of Ehrhart in our possession, and with Hoffmann's description and figure.

It grows in broad dense patches of a glaucous grey hue. Each plant is small, erect, shrubby, branched, bearing numerous, crowded, stalked, minute leaves, finely lobed, jagged, and crisped, with mealy tips and edges. The fruit-stalks are terminal and solitary, simple or divided, naked or scaly, more or less compressed, each bearing a head of tumid, uneven tubercles, of a pale flesh-coloured brown, turning (according to Acharius and Hoffmann) black with age.

2033.
2525



Oscillatoria limosa.

May 1 1809 published by J. & A. Arch

CONFERVA limosa.

Dark-green Mud Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Dark blueish green. Filaments simple, capillary, obtuse, gelatinous, short, even, compact. Joints indistinct, nearly as long as broad.

SYN. Conferva limosa. *Dillw. Conf. t.* 20. *Winch Guide, v.* 2. 74.

C. gelatinosa, omnium tenerrima et minima, aquarum limo innascens. *Dill. in Raii Syn.* 477. *Musc.* 15.

SENT by Mr. W. Borrer, who finds it common in running water, growing, as Dillenius remarks, upon fine black mud, with which it altogether forms a soft mucous mass, to be examined successfully only by placing it for a time in a pan of water, before we use the microscope. Mr. Dillwyn says, "though when first immersed, its filaments are so thickly matted that they cannot be disentangled, yet in the space of a night it will shoot out an immense quantity of threads, visible to the naked eye only from their number." These threads lie densely entangled over each other, and are each about half an inch long, of a dark blueish green, blunt at each end, simple, even, gelatinous; when very highly magnified proving to consist of obsolete joints, each nearly as long as broad. Dillenius says, "as its parts are invisible, it would be rash to give a figure of it," so he leaves it unattempted, though his figure is quoted by authors as if it existed.

Mr. Dillwyn, in his description of *C. fontinalis, t.* 64, expresses a suspicion of the present being only a young state of that species; but if our idea of the length of the joints be correct, they should be different. See *t.* 2054.

2524.
2527.

Oscillatoria nigra?

May 1 1829 published by Jas Sowerby London

CONFERVA fontinalis.

Brownish Spring Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Dark brownish green. Filaments simple, capillary, obtuse, even, divaricated. Joints four times as broad as long.

SYN. Conferva fontinalis. *Linn. Sp. Pl.* 1633. *Huds.* 592. *With. v.* 4. 128. *Hull.* 330. *Lightf.* 975*. *Winch Guide, v.* 2. 74.

C. minima, byssi facie. *Dill. Musc.* 14. *t.* 2. *f.* 3.

C. fontalis fusca omnium minima mollis. *Dill. in Raii Syn.* 58.

VERY general in both running and stagnant waters, either attached to rocks, stones, or posts, or, when at its full growth, floating in irregular radiated flakes on the surface. Its colour is a dark dull brownish green; but it often assumes a more brown hue, and at the same time an earthy aspect, from calcareous or ferruginous matter, originally dissolved by carbonic acid gas in the water, which matter this plant, like *Chara* and others, attaches to itself, apparently by imbibing the solvent. It is a great agent in purifying corrupted water, as Dr. Priestley first remarked.

The filaments are several lines in length, simple, spreading in a concentric manner, even, obtuse at each end, composed of regular very short joints, about four times as broad as they are long, so that we can hardly conceive it to be the advanced state of *C. limosa, t.* 2053, because the joints of this tribe are commonly lengthened by age.

Bangia fusco-purpurea?

Jan 1 1809 published by J.ᵈ Sowerby London

CONFERVA fusco-purpurea.

Brownish-purple Marine Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Brownish-purple. Filaments simple, very slender, entangled; swelling irregularly by age. Joints three or four times as broad as long, pellucid at each end, at length internally granulated.

SYN. Conferva fusco-purpurea. *Dillw. Conf. t.* 92.

SENT by Mr. W. Borrer from piles in the sea at Brighthelmstone. Mr. Dillwyn only has hitherto described it, from specimens gathered on calcareous submarine rocks by Mr. W. W. Young. It is said to cover such rocks in patches 2 or 3 square feet in extent, and conspicuous for their glossy purplish-brown colour. The filaments are clustered or entangled, simple, very fine and slender, about an inch long; regular and even when young, but afterwards swelling here and there into twice their original diameter. The joints are extremely short, pellucid and white at their extremities and sides. As they advance in age, their purple internal substance separates into a simple series of globular granules; and a similar but less accurate separation takes place whenever the plant is taken, for some time, out of its native element, as happens to the generality of this tribe.

2041
143

Festuca rubra.

FESTUCA rubra.

Creeping Fescue-grass.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of 2 valves. *Spikelet* oblong, somewhat cylindrical, two-ranked, with sharp-pointed glumes.

SPEC. CHAR. Panicle pointing one way. Florets roundish, awned. Leaves downy on the upper side. Root creeping.

SYN. Festuca rubra. *Linn. Sp. Pl.* 109. *Sm. Fl. Brit.* 116. *Huds.* 45. *Lightf.* 102. *Hull. ed.* 2. 29. *Stillingfl. Misc. t.* 9.

F. repens, a variety of duriuscula. *Knapp. t.* 119.

Gramen alpinum pratense, paniculâ duriore laxâ spadiceâ, locustis majoribus. *Scheuchz. Agr.* 287. *t.* 6. *f.* 9.

β. Festuca cambrica. *Huds.* 45. *With.* 155. *Hull.* 24.

γ. F. glabra. *Lightf.* 1085. *Huds.* 648. *With.* 154. *Hull.* 24.

δ. F. glauca. *Winch Guide, v.* 2. *præf.* 2.

IT is very hard to say in this genus what may or may not be a species, but we feel much inclined to agree with our observing friend Mr. Knapp, that the 4 supposed species, which we here reduce to one, are not really distinct even from *F. duriuscula, t.* 470. From our figure of the latter its tendency to a creeping root is obvious. In the plant before us, which inhabits the loose barren sands of the sea coast, that part is indeed prodigiously elongated, and acquires long woolly fibres, a change apparently caused by its situation. In alpine specimens the same part spreads less, producing more frequent herbage. The whole plant is strongest and most rigid on the coast, as happens in *Triticum repens*, and occasionally more glaucous likewise. The upper side of the leaves is very downy, and their edges involute. Panicle various in size, as are the awns in length. Florets more or less downy. It flowers in June.

343

RIBES Uva-crispa.

Smooth Gooseberry.

PENTANDRIA Monogynia.

GEN. CHAR. *Cal.* superior, bell-shaped, 5-cleft, bearing the *petals* and *stamens*. *Style* cloven. *Berry* with many seeds.

SPEC. CHAR. Branches prickly. Footstalks hairy. Flower-stalks single-flowered. Bracteas united. Fruit smooth.

SYN. Ribes Uva-crispa. *Linn. Sp. Pl.* 292. *Sm. Fl. Brit.* 266. *With.* 266. *Hull.* 54. *Relh.* 97. *Sibth.* 84. *Cullum.* 88. *Schmidel. Ic.* 5. *t.* 1.

Uva crispa. *Fuchs. Hist.* 187. *Ger. em.* 1324.

AS we have been led, by great authorities, into an error, though not without repeatedly offering our protest against it, we deem it right to show what is meant by the plant in question, which indeed is necessary to the plan of this work. At the same time we demonstrate that some of the reputed characters, by which this has been supposed distinct from *R. Grossularia*, *t.* 1292, the glandular footstalks and united bracteas, are evanescent and futile, as Mr. Robson, by sowing the seeds, has proved the roughness or smoothness of the fruit to be. The germen indeed is hairy in the present plant, sent by Mr. W. Borrer from Sussex, though the fruit is smooth. The bracteas are scarcely at all united at the base, but this is a very variable circumstance. The footstalks of all wild gooseberry-bushes are generally hairy, but in some the hairs are more glandular than in others, as they likewise are on the germen of the Rough Gooseberry, while in that before us they are simple soft pointed hairs.

Potentilla rupestris.

POTENTILLA rupestris.

Strawberry-flowered Cinquefoil.

ICOSANDRIA Polygynia.

GEN. CHAR. *Cal.* in 10 segments. *Petals 5. Seeds* roundish, naked, generally wrinkled, affixed to a small dry receptacle.

SPEC. CHAR. Leaves pinnate, somewhat lyrate, of seven, five, or three ovate, serrated, hairy leaflets. Stem erect.

SYN. Potentilla rupestris. *Linn. Sp. Pl.* 711. *Sm. Fl. Brit.* 548. *Huds.* 223. *With.* 473. *Hull.* 112. *ed.* 2. 151. *Jacq. Austr. t.* 114.
Pentaphylloides erectum. *Raii Syn.* 255.

MR. LHWYD is said by Ray to have gathered this plant on the sides of Craig Wreidhin, a mountain of Montgomeryshire. We have never heard of its being found since, nor did we ever see a British specimen; that in the annexed plate being therefore necessarily a garden one. We do not however doubt of its growing in Wales, for it is even in Switzerland a very local plant, and found very sparingly (see *Tour on the Continent, ed.* 2. *v.* 3. 169), so as probably to be often overlooked.

The root is fibrous and perennial. Whole herb somewhat hairy. Stem about a foot high, herbaceous, erect, branched, corymbose, leafy, reddish. Leaves pinnate in a lyrate manner, the leaflets ovate, obtuse, deeply serrated, veiny, green on both sides; the lowermost leaves composed of 5 or 7, the uppermost of 3. Stipulas of the radical ones linear, acute; of the rest roundish. Flowers white, much like those of a garden strawberry. Calyx very hairy at its base. Seeds smooth, not wrinkled, so that it perhaps belongs as properly to *Fragaria* as the *F. sterilis, t.* 1785, whose fruit is likewise destitute of pulp. It flowers in June, sometimes again late in autumn, and is easily kept in a garden without any particular care.

Orchis Morio

ORCHIS Morio.

Green-winged Meadow Orchis.

GYNANDRIA Monandria.

GEN. CHAR. *Nectary* a spur behind the flower. *Anther* parallel to the style.

SPEC. CHAR. Bulbs undivided. Lip of the nectary four-cleft, somewhat crenate; spur obtuse, ascending. Outer petals cohering, many-ribbed.

SYN. Orchis Morio. *Linn. Sp. Pl.* 1333. *Sm. Fl. Brit.* 920. *Swartz. Orchid.* 12. *Huds.* 383. *With.* 23. *Hull.* 194. *ed.* 2. 252. *Relh.* 343. *Sibth.* 10. *Abbot.* 192. *Curt. Lond. fasc.* 3. *t.* 59.

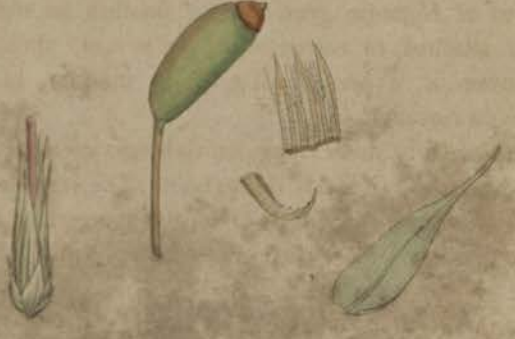
O. morio fœmina. *Raii Syn.* 377.

A NATIVE of meadows and pastures that are rather moist, flowering in May, or early in June.

Root of two nearly globose bulbs, one of which is a little removed from the other by its stalk. Leaves lanceolate, of a deepish, but rather glaucous, unspotted green; paler and shining underneath. Spike rather loose, of from 4 to 8 or 10 flowers, whose predominant colour varies from a very pale to a rather deep reddish purple *, but in all the varieties the green ribs of the outer petals, (or rather 3-leaved calyx), which mark this species, are equally strong. These leaves cohere over the 2 real petals within. The spur is curved upward, and obtuse. Lip of 2 deflexed parallel lobes, each of which is cloven and irregularly crenate, the central ridge between them white, dotted with purple. The common stalk, bracteas and germens are more or less tinged with the same hue.

We are persuaded of the propriety of terming the 3 outer leaves of the flower, in the Orchis tribe, a calyx, and the 2 inner ones petals, see *Introd. to Bot.* 461, according to which principle our descriptions may, at the pleasure of the reader, be reformed.

* See Mr. Sowerby's very ingenious Elucidation of Colours, tab. 5. f. 23.



Hypnum riparium

HYPNUM riparium.

Short-beaked Water Feather-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* ovate-oblong, from a lateral scaly sheath. *Outer fringe* of 16 teeth, dilated at the base: *inner* a variously-toothed membrane. *Veil* smooth.

SPEC. CHAR. Stem spreading, branched. Leaves ovate, with a taper point, entire, single-ribbed, loosely spreading in two ranks. Capsule drooping. Lid conical.

SYN. Hypnum riparium. *Linn. Sp. Pl.* 1595. *Sm. Fl. Brit.* 1292. *Hedw. Sp. Musc.* 241. *Crypt. v.* 4. 7. *t.* 3. *Huds.* 505. *With.* 861. *Hull.* 273. *Relh.* 436. *Sibth.* 301. *Abbot.* 250. *Turn. Musc. Hib.* 152.

H. aquaticum, flagellis et teretibus et pennatis. *Dill. Musc.* 308. *t.* 40. *f.* 44. B, C, D.

H. ramosum fluitans pennatum. *Raii Syn.* 81.

THIS kind of *Hypnum* grows either floating in running streams, or attached to rotten wood or stones, about the shores of rivers, in a decumbent creeping manner, bearing fruit at various seasons.

The stems are 2 or 3 inches long, much longer when floating, irregularly branched, and leafy throughout. The leaves spread loosely and are scarcely imbricated; on the younger branches more especially they are disposed in two ranks, which is less remarkable on the older stems; they are ovate and entire, with a more or less elongated taper point, and a strong central rib; their colour is a yellowish or tawny green. Sheaths solitary, pale, of many tapering plaited leaves. Fruit-stalks red, from 1 to 2 inches in length. Capsule inclining, cylindrical, somewhat ovate, slightly curved and gibbous, smooth. Lid conical, short, pointed. Fringe of a rusty red.

Variolaria multipunctata

LICHEN multipunctus.

Many-dotted Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust ash-coloured, warty, rugged, tartareous, thin, with a fibrous border. Shields hemispherical, with a white aggregate powdery disk, and smooth lobed border.

SYN. Variolaria multipuncta. *Turn. Tr. of L. Soc. v.* 9. 137. *t.* 10. *f.* 1.

AMONG the eight new British Lichens described by Mr. Turner in the 9th volume of the Linnæan Society's Transactions, of which we have already given six to the public, is the present curious species, found not uncommonly, on the trunks of beeches in Sussex, by Mr. W. Borrer, who has bestowed specimens upon us.

This has doubtless been overlooked among the *fagineus*, *discoideus*, &c. Its crust is of a similar grey or ash-coloured hue, tartareous, but thinner, spreading in roundish patches, with a fine thin minutely fibrous edge; the surface grows rugged and warty by age, and is always opaque or unpolished, changing nearly to white in drying. The shields are numerous, rather small, hemispherical, with a thick, smooth, lobed, but not granulated border; their disk white, rugged, peculiar for being marked with 3 or 4 dots, which are found to be so many distinct disks, as it were, in one border, being separated from each other at the base internally, by the fleshy substance of the crust. The old disks change to a brownish colour.

Mr. Borrer observes that this species is destitute of the nauseous bitter taste, which he first noticed in *L. fagineus*, *t.* 1713.

Engraved by J. Thomson, Edin.

LICHEN velatus.

Veiled Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust limited, tartareous, thin, rugged, greyish, with a pale edge. Shields small, crowded; the disk yellowish, veiled with a white membrane; border thick, even, of the substance of the crust.

SYN. Parmelia velata. *Turn. Tr. of L. Soc. v.* 9. 143. *t.* 12. *f.* 1.

COMMUNICATED by Mr. W. Borrer, along with the preceding, from Sussex, where it grows, but rarely, upon ash trees.

It has the crust and general habit of our *L. multipunctus*, *t.* 2061, and surely proves that there can be no generic distinction, natural nor even artificial, between the two species. The crust in the present is a little greener; usually perhaps more uneven. The shields are sessile, numerous, small, with a thick, but not much elevated, smooth border, originating from the crust; their disk is flat, of a yellowish or pale salmon colour, but entirely concealed by a peculiar white membranous veil which is drawn across it from the border, and which seems sufficiently to distinguish this species from several others to which it is otherwise very nearly allied. This veil, to be understood, requires examination in a recent or moist state.

2663

2155

Parmelia pulverulenta?

Engraved published by J.T. Laverty, London

LICHEN pulverulentus.
Green Powdery Stellated Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Imbricated, flexible, stellated, deep glaucous green; hoary-ashcoloured when dry; its segments dilated, flat, obtuse, wrinkled; black and downy beneath. Shields glaucous-black, with a thick, inflexed, at length leafy, border.

SYN. Lichen pulverulentus. *Schreb. Lips.* 128. *Ach. Prod.* 112. *Relh.* 461. *Sibth.* 325. *Hagen.* 66. *t.* 2. *f.* 8.

L. stellaris β & γ. *Huds.* 534. *With. v.* 4. 31. *Hull.* 294. *Lightf.* 824 β.

L. allochrous. *Ehrh. Crypt.* 187.

Lichenoides glaucum orbiculare, segmentis latiusculis, scutellis nigris. *Dill. Musc.* 177. *t.* 24. *f.* 71.

L. arboreum et saxatile, crustâ foliosâ tenui, fusco-virenti, in segmenta latiora plerumque divisa. *Dill. in Raii Syn.* 74; also L. arboreum, crustâ foliosâ informi, scutellis subnigris, limbo cinereo crispo cinctis. *Dill. in R. Syn.* 75.

Parmelia pulverulenta. *Ach. Meth.* 210.

VERY common on the trunks of Ashes, Oaks, Beeches, &c., at all seasons, but growing most in the moist winter months.

Nothing can be more distinct than this species from the *L. stellaris*, *t.* 1697, with which Linnæus and his followers confounded it, though unhappily our figure of that, by a gross error of the colourer, is made green, whereas the plant is of a silver grey, unaltered by moisture, which in Mr. Sowerby's original drawing was faithfully expressed. The present species, on the contrary, is of a fine, deep, rather glaucous, green when wet; of a dull, brownish, grey when dry. The fronds are also larger, composed of broader, more dilated and rugged segments. The shields are larger and more clumsy, first grey, then black, with a thick border of the substance of the leaf, which as it advances in age acquires a scaly, and often leafy, circumference.

2004.
2156.

Parmelia pityrea?

Sowerby published by J.E. Sowerby, London.

LICHEN pityreus.

Scurfy Imbricated Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Imbricated, flexible, glaucous-green; hoary-ashcoloured when dry; its segments dilated, concave, rounded, crenate, very powdery at their lateral margins; pale and fibrous beneath. Shields glaucous-black, with a broad, inflexed, very powdery border.

SYN. Lichen pityreus. *Ach. Prod.* 124.
L. pulverulentus. *Ehrh. Crypt.* 285.
L. lanuginosus. *Hoffm. Enum.* 82. *t.* 10. *f.* 4.

TO Mr. W. Borrer and Mr. Turner belongs the honour of first determining this as a species in England, though I gathered it on a wall at Strumpshaw, along with *L. cæsio-rufus*, *t.* 1040, in July 1783, but without shields, and was persuaded to refer it to *pulverulentus*. Mr. Turner aptly named the plant *farreus*, from its mealy aspect; but finding that Ehrhart has published it by an appellation of similar meaning, we adopt his name. It is strange that Acharius should have confounded it, in his *Prodromus* and *Methodus*, with his own *lanuginosus*. This latter is called *membranaceus* by Dickson, an excellent name for it; but still we cannot retain *lanuginosus* for the plant before us, on account of its inaptitude, and the confusion that would ensue.

L. pityreus is common in Norfolk and Suffolk on old trees and brick walls, usually not very high above the ground, running closely over tufts of moss and accumulated earth. It always forms smaller patches than *L. pulverulentus*, *t.* 2063, its lobes are more depressed and concave, its colour a paler more glaucous green when wet, and the lateral edges of its segments are distinguished by thick whitish powdery tufts or granulations, not found in the former; neither are the fibres of its under side so dense or near so black. The centre of the frond becomes a mass of these powdery granulations, and the thick incurved border of the shields, which are rare, small and blackish, is covered with them. The Rev. G. R. Leathes sent our specimens from Bury.

2063

2134

Parmelia scortea?

Engraving published by J.ᵗ Sowerby London

LICHEN scorteus.

Leathery Granular Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leafy, slightly imbricated, greyish-white, even and smooth, besprinkled with innumerable dark granulations; its segments rounded, lobed and wavy; black and rough beneath. Shields bright chesnut.

SYN. Lichen scorteus. *Ach. Prod.* 119.
L. tiliaceus. *Ehrh. Crypt.* 59.
L. n. 955. *Leers. Herborn.* 258.
Parmelia scortea. *Ach. Meth.* 215.

GATHERED on trees and pales in Sussex and Surrey by Mr. W. Borrer, who, like ourselves, has also received it from the Rev. Mr. Harriman and the Rev. G. R. Leathes, but it is always barren in Britain, as Leers, Ehrhart and Acharius found it on the continent. The latter however, since his *Methodus* appeared, has obtained the shields, and we are indebted to him for those in our plate. They are small, but otherwise exactly like those of *saxatilis*, and other species allied to it, for in this tribe of Lichens the specific differences are chiefly observable in the frond.

This has the habit of *saxatilis*, *t.* 603, and *Borreri*, *t.* 1780, but is neither pitted or reticulated like the former, nor besprinkled with white powdery warts like the latter; while it further differs from both in having its central part all covered with innumerable, minute, dark, powdery granulations, each tipped with white. From *tiliaceus*, *t.* 700, and *lævigatus*, *t.* 1852, it abundantly differs. The lobes are a little dilated, very smooth and even, rounded, notched and wavy, of a light-greyish white, not shining, but very conspicuous when dry. The under surface is clothed with very black fibres, almost to the extremities, which are rough and tipped with shining brown.

2068
2223

Gyrophora erosa?

Sep. 1809 published by J.C.

GYROPHORA erosa.

Corroded Gyrophora.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Tubercles* sessile on a peltate frond, black, with a plaited contorted disk, in whose clefts the *seeds* are lodged.

SPEC. CHAR. Frond membranous, rugged, blueish-black; its circumference perforated, reticulated and jagged; under side brownish-grey, somewhat granulated and fibrous. Tubercles rather convex.

SYN. Gyrophora erosa. *Ach. Meth.* 103.
Lichen erosus. *Ach. Prod.* 145. *Weber. Goett.* 259.
L. corrosus. *Ehrh. Crypt.* 306.
L. torrefactus. *Lightf.* 862. *With. v.* 4. 62. *Hull.* 301. *Winch. Guide. v.* 2. 43.
L. polyrrhizos. *Huds.* 550.
Lichenoides rugosum durum pullum, peltis atris verrucosis. *Dill. Musc.* 220. *t.* 30. *f.* 118.
Umbilicaria erosa. *Hoffm. Pl. Lich. v.* 3. *t.* 70.

FREQUENT on the highest granite hills of Wales and Scotland, as well as in the mountainous parts of Durham and Yorkshire. Accompanying the vitrified forts in the Highlands, it looks as if it had, like them, undergone the action of fire, which seems to have suggested Lightfoot's specific name. This, though certain and expressive, we resign to one still more so, of nearly the same date, which has been more generally adopted. To such reasons a trifling difference in priority ought to give way. We have long and repeatedly hinted the propriety of establishing these umbilicated Lichens as a genus, and in so doing we, at the earnest desire of our learned friend Acharius, adopt his name *Gyrophora*, which expresses the generic character, in preference to Hoffmann's older one *Umbilicaria*.——To this genus belong our *t.* 522, 931, 1282 and 1283.

The present species differs from all the rest in the curious lace-work of its circumference, and in the peculiar compressed fibres, like shavings, of the under side. The upper side is of an inky black, lobed, jagged and curled, bearing frequent convex coal-black tubercles, which are very much plaited or compounded.

Galium erectum.

As it was published by J.ᵒ Sowerby, 1.ᵒ

GALIUM erectum.

Upright Bed-straw.

TETRANDRIA Monogynia.

GEN. CHAR. *Cor.* of one petal, flat, superior. *Seeds* 2, roundish.

SPEC. CHAR. Leaves about eight in a whorl, lanceolate, pointed, their edges rough with prickles pointing forward. Stem smoothish, weak. Fruit smooth.

SYN. Galium erectum. *Huds.* 68. *Sm. Fl. Brit.* 176. *With.* 189. *Hull.* 36. *ed.* 2. 44. *Relh.* 56. *Abbot.* 34. *Dicks. H. Sicc. fasc.* 17. 2.

GATHERED by Mr. W. Borrer in dry hedges at Portslade, Sussex, flowering the middle of June. Mr. Dickson says it grows in dry pastures. The late Mr. Crowe noticed it on a bushy part of Heydon common, Norfolk, which is rather moist, and this accords with Mr. Relhan's account. We find no mention of this plant in the Botanist's Guide, which we presume is owing to its having escaped the notice of most observers, and not to its being supposed too frequent for admission into that useful book.

The roots are perennial, small and slender. Stems upright when they meet with support, but weak and flaccid, much branched, leafy, panicled, many-flowered, often quite smooth, sometimes more or less clothed with soft hairs. Leaves 6, 7 or 8 in a whorl, lanceolate, bristle-pointed, edged with prickly serratures all directed forward. Panicles terminal and lateral, compound, three-forked, leafy, with slender smooth stalks, bearing numerous white flowers, the segments of whose corolla are sharply pointed. Stamens short, erect. Fruit small, smooth.

Hudson mistook this for *G. austriacum* of Jacquin, which, according to specimens sent by himself, is very different, having linear and much longer leaves, with smooth edges.

ROSA involuta.

Prickly Unexpanded Rose.

ICOSANDRIA Polygynia.

GEN. CHAR. *Cal.* urn-shaped, fleshy, contracted at the orifice, terminating in 5 segments. *Petals* 5. *Seeds* numerous, bristly, fixed to the inside of the calyx.

SPEC. CHAR. Fruit globose, very prickly, as well as the flower-stalks. Prickles of the stem very numerous and nearly straight. Petals involute and imperfectly expanded. Leaflets elliptical.

SYN. Rosa involuta. *Sm. Fl. Brit.* 1398.

THE late Mr. J. Mackay communicated a wild specimen of this Rose from the Hebrides, which is described in the *Flora Britannica*. The present grew in Cambridge garden, under the care of its able Curator Mr. James Donn, and was sent to Mr. Sowerby, June 13th last.

This shrub has the general habit of *R. spinosissima*, *t.* 197, with which the numerous prickles of its stem, various in size and rarely very slightly curved, agree. But it differs from that species in having extremely prickly leaf-stalks and flower-stalks, as well as larger, more elliptical, leaflets, whose ribs underneath are more generally hairy. The germen inclines to ovate, and is all over strongly armed with prickles; whereas that of the *spinosissima* is smooth and much depressed. The calyx-segments are long, simple and pointed, rough externally with glandular prickles. Petals whitish, variegated more or less with red, concave and involute, seldom above half expanded. We have not seen the ripe fruit.

Carex capillaris.

CAREX capillaris.

Capillary Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Common sheath but half the length of the flower-stalks. Female spikes ovate, rather loose, drooping. Fruit sharp-pointed.

SYN. Carex capillaris. *Linn. Sp. Pl.* 1386. *Sm. Fl. Brit.* 985. *Gooden. Tr. of L. Soc. v.* 2. 180. *Lightf.* 557. *Huds.* 651. *With.* 101. *Hull.* 207. *Dicks. H. Sicc. fasc.* 9. 14. *Winch. Guide. v.* 1. 84.

Cyperoides alpinum, spicis seminiferis pendulis, binis in summo caule. *Seguier. Veron. v.* 3. 83. *t.* 3. *f.* 1.

THE Rev. Dr. Stuart found this rare *Carex* on some of the Highland mountains of Breadalbane, and communicated it to Mr. Lightfoot, through whom it first became known as a Scottish plant. It has since been sent to Mr. Sowerby from the county of Durham, by the Rev. Mr. Harriman. It usually grows in bushy rather moist places, flowering in July or August.

Root perennial, fibrous. Stem erect, 3 or 4 inches high, roundish, striated, smooth, naked, or nearly so. Leaves scarcely 2 inches long, mostly radical, narrow, acute, dark-green, slightly keeled, rough-edged towards the top only. Principal bractea like the leaves but smaller, terminating the stem, erect, sheathing at the base, embracing a few smaller inner ones, along with all the flower-stalks, which are about twice its own length, 3 or 4 in number, capillary, triangular, rough, sometimes separated from each other by an accidental elongation of the stem. Male spike erect, linear, pale, of about 10 flowers: female 2 or 3, drooping or pendulous, ovate, lax, not half an inch long. Glumes ovate, brown, pale-edged. Stigmas 3. Fruit dark-brown, ovate, triangular, smooth, with a sharp beak. Seed elliptical, with 3 sharp angles.

207.
1653.

Tortula rurales.

Certainly published by J. Sowerby London.

TORTULA ruralis.

Great Hairy Screw-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of numerous capillary teeth, spirally and repeatedly twisted together.

SPEC. CHAR. Stem branched. Leaves obtuse, recurved, hair-pointed; the uppermost stellated. Capsule cylindrical, somewhat ovate.

SYN. Tortula ruralis. *Ehrh. Crypt.* 184. *Sm. Fl. Brit.* 1254. *Sibth.* 285. *Turn. Musc. Hib.* 50.

Barbula ruralis. *Hedw. Sp. Musc.* 121.

Bryum rurale. *Linn. Sp. Pl.* 1581. *Huds.* 476. *With.* 836. *Hull.* 265. *Relh.* 426. *Abbot.* 241. *Dicks. H. Sicc. fasc.* 15. 18.

B. rurale unguiculatum hirsutum, elatius et ramosius. *Dill. Musc.* 352. *t.* 45. *f.* 12.

B. majus, erectis falcatis capitulis, foliis latiusculis extantibus, in pilum canescentem desinentibus. *Raii Syn.* 94.

COMMON upon walls and the old trunks of trees, but especially on the roofs of cottages or barns in the country, which it generally overspreads in broad thick cushion-like patches, of a dirty brown, somewhat hoary, aspect in dry hot weather; dark green in the winter and spring; when the capsules and their red stalks are copiously produced.

The stems are an inch or two high, branched, elastic, level-topped, leafy. Leaves of a dull green, oblong, very obtuse, so as to be almost obovate, entire, recurved, having a central red nerve, which ends in a long, tawny, roughish, wavy hair. Fruitstalks at first terminal, but soon becoming lateral, firm, erect, an inch and half long. Capsule slender, erect, smooth, chesnut-coloured. Lid scarcely shorter than the capsule, curved, red. Fringe tawny, shorter than the lid, closely twisted, the teeth at the base pale, and united into a firm perforated tube, from which last character some late botanists have made a new genus of this and a few other *Tortulæ*. The veil is long, awlshaped, brown, a little dilated at the lower part.

Hypnum plumosum.

Oct. 1st 1805 published by J. Sowerby London.

HYPNUM plumosum.

Rusty Silky Feather-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* ovate-oblong, from a lateral scaly sheath. *Outer fringe* of 16 teeth, dilated at the base: *inner* a variously-toothed membrane. *Veil* smooth.

SPEC. CHAR. Stem creeping. Branches crowded, erect. Leaves ovate, pointed, entire, with a rib reaching half way. Capsule ovate, inclining. Lid conical.

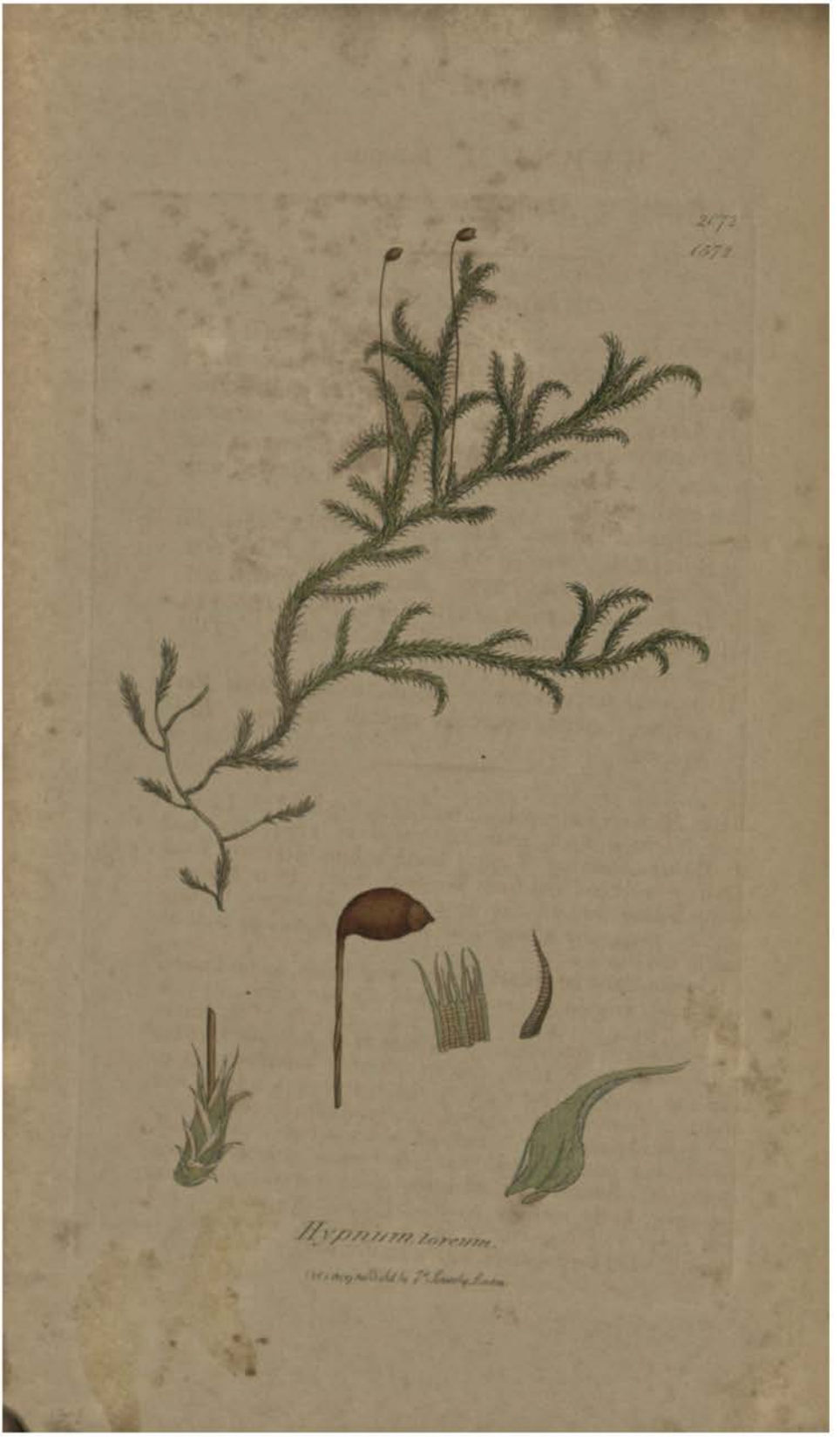
SYN. Hypnum plumosum. *Huds. ed.* 1. 423. *Sm. Fl. Brit.* 1310. *Linn. Sp. Pl.* 1592. *With.* 852. *Hull.* 270. *Sibth.* 296. *Abbot.* 247. *Dicks. H. Sicc. fasc.* 5. 22. *Turn. Musc. Hib.* 172. *t.* 15. *f.* 1.

H. sericeum β. *Huds.* 506.

H. repens filicinum plumosum. *Dill. Musc.* 280. *t.* 35. *f.* 16. *Raii Syn.* 86.

FREQUENT on rocks, stones, brick walls, and about the roots of trees, bearing its capsules in winter and spring. The stems are prostrate, closely creeping, leafy, throwing up numerous, short, erect, mostly simple, cylindrical, leafy branches. Leaves closely imbricated every way, ovate or ovato-lanceolate, longish-pointed, concave, entire, furnished with a single rib, which scarcely reaches half way; their colour is a shining yellowish green, turning brown with age, but never losing its polish. Sheaths of several ovate pale leaves, with spreading points. Fruit-stalks scarcely an inch long, solitary, smooth, dark-red. Capsule inclining, ovate, short, brown, with a pale fringe. Lid conical.

Hedwig's *H. plumosum* is a very different plant, the *sale-brosum* of Hoffmann.


2472
1371
Hypnum tarenn.

HYPNUM loreum.

Rambling Mountain Feather-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* ovate-oblong, from a lateral scaly sheath. *Outer fringe* of 16 teeth, dilated at the base: *inner* a variously-toothed membrane. *Veil* smooth.

SPEC. CHAR. Stem procumbent, somewhat pinnate. Leaves awlshaped, recurved, pointing towards one side, with a broad striated base. Lid convex, with a small point.

SYN. Hypnum loreum. *Linn. Sp. Pl.* 1593. *Sm. Fl. Brit.* 1324. *Hedw. Sp. Musc.* 294. *Huds.* 502. *With.* 857. *Hull.* 272. *Relh.* 436. *Sibth.* 297. *Dichs. H. Sicc. fasc.* 7. 21. *Turn. Musc. Hib.* 185.

H. loreum montanum, capsulis subrotundis. *Dill. Musc.* 305. *t.* 39. *f.* 40.

H. repens, surculis magis erectis, foliis reflexis longioribus cinctis, operculo capituli magno. *Raii Syn.* 82.

THIS *Hypnum* had not been noticed in Scotland till I found it in Rivelston wood near Edinburgh in 1782, nor had Mr. Dickson observed it till I brought him specimens from that neighbourhood and from Westmoreland. It is however by no means rare in dry mountainous countries, bearing capsules, frequently enough, in March or April, as well as later in the season.

It is one of the largest of the squarrose kinds, and is known by its long, rambling, branched and pinnate stems, its pale yellowish hue, but especially by the curvature of its leaves toward one side, in which it differs from *H. triquetrum*, *t.* 1622, and *squarrosum*, *t.* 1953, two species most resembling it in size and colour. The ends of the branches are acute and hooked. Leaves closely imbricated, recurved; broad, entire, and marked with 3 or 5 furrows at their base; awlshaped, keeled, and minutely toothed, rather than serrated, in the other part. Sheath pale, of many ovate leaves, with acute, spreading, finely toothed points. Fruit-stalks an inch and half long, red, smooth. Capsule drooping, ovate, turgid, smooth. Lid very convex with a small point, reddish.

2073.
1382

Hypnum aduncum.

Published by P. Crouch, London.

HYPNUM revolvens.

Curling-leaved Feather-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* ovate-oblong, from a lateral scaly sheath. *Outer fringe* of 16 teeth, dilated at the base: *inner* a variously-toothed membrane. *Veil* smooth.

SPEC. CHAR. Stem nearly erect, pinnate. Leaves awlshaped, compressed, twisted into a sickle-shape, single-ribbed; striated when dry. Lid conical.

SYN. Hypnum revolvens. *Swartz. Musc. Suec. 58 and* 101. *t.* 7. *f.* 14. *Sm. Fl. Brit.* 1327. *Turn. Musc. Hib.* 188. *Winch. Guide. v.* 1. 111.

FIRST observed by the late Dr. Scott in boggy places near Swanlinbar, Ireland, but without fructification. Our specimens were communicated from Prestwick Car, Northumberland, by Mr. J. Thornhill in 1804, and Mr. Winch in 1806. They agree precisely with others sent by the original describer of this species, Professor Swartz.

The plant before us has something of the habit of *H. scorpioides*, *t.* 1039, not so well expressed in that plate as we could have wished, the specimens not having acquired their rich tawny colour. This is much smaller, more erect, and of a still darker hue, almost black, except the young branches, whose leaves are pale green, soon becoming tawny. The branches are short, alternate, and spreading. Leaves rather shining, closely imbricated, curved to one side, lanceolate or ovate, with an awlshaped acute termination, compressed, keeled, much curved and twisted, single-ribbed; when dry striated. Sheath pale brown, slender, close. Fruit-stalk above 2 inches high, red, wavy. Capsule cylindrical, curved, drooping, of a rusty hue, becoming slightly but irregularly furrowed by drying. Lid conical, short, with a little point.

The compressed carinated leaves, and dark colour, distinguish this from *H. aduncum*, which is moreover a smaller plant.

2674
1602

Bartramia marchica

BARTRAMIA marchica.

Bog Bartramia.

CRYPTOGAMIA Musci.

GEN. CHAR. *Capsule* spherical, at length furrowed. *Outer fringe* of 16 tapering teeth; *inner* a plaited membrane.

SPEC. CHAR. Fruit-stalks erect, taller than the stems. Leaves lanceolate, finely serrated, imbricated in five rows. Branches clustered, slender, upright.

SYN. Bartramia marchica. *Web. and Mohr. Ind. Mus. 5. Swartz in Schrad. Journ. for* 1800. 180.
Leskia marchica. *Willd. Berol.* 319.
Mnium marchicum. *Hedw. Crypt. v.* 2. 108. *t.* 39.

DISCOVERED at the falls of Moness by Aberfeldy, in the Highlands of Scotland, in 1808, by Mr. W. Borrer and Mr. W. J. Hooker, but without fructification. That deficiency we have supplied from East Indian specimens, exactly agreeing with the British ones, which we have the authority of our intelligent friend last named to say, are what is called by mistake *B. fontana* in his paper on Nepal Mosses, Tr. of L. Soc. v. 9. 317.

This species has extremely the aspect of *B. fontana*, (*Bryum fontanum,*) *t.* 390, but when examined with a common magnifying glass, the leaves are found much more closely imbricated, ranged in 4 or 5 spiral rows, lanceolate, with longer more taper terminations, and when more highly magnified they prove to be finely serrated, which Mr. J. D. Sowerby has first detected, for Hedwig represents them entire. Several young, short, leafy, angular branches are clustered round the base of each fruitstalk, which rises much above them, being near 2 inches long, red, rather stronger than in the *fontana*. The capsule is somewhat smaller and more globular, but scarcely any difference is observable in the lid.

Variolaria Vitiligo

SPILOMA Vitiligo.

Leprous Spiloma.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Receptacles* shapeless, without a border, hairy and powdery, in an uninterrupted crust.

SPEC. CHAR. Crust very thin, membranous, whitish, swelling under the receptacles, which are convex, roundish, variegated with grey and black.

SYN. Spiloma Vitiligo. *Ach. Meth.* 10. *t.* 1. *f.* 4.

FOUND upon old posts and other dead wood long stripped of its bark, which it covers with an apparent hoary mouldiness, that slightly stains the finger if touched. The acute Professor Acharius first established this genus, which we now gladly adopt, more especially as some late discoveries seem to us to confirm it. The essential character of *Spiloma* consists in the indeterminate form of its receptacles and in their hairy as well as powdery disk, destitute of any proper edge or border, circumstances abundantly sufficient to separate it from *Lichen*, *Opegrapha*, *Lepraria*, and all others.

In this species when magnified the crust proves to be thin, membranous, of a silvery greyish white, smooth and even, except where the numerous fructifications occur, under each of which it is considerably elevated into roundish irregular warts, of various sizes. The surface of each wart becomes a black, powdery, minutely hairy disk, variegated with grey, without any real border, though the tumid edges of the elevated crust resemble one. The powdery part we presume to be the seeds. Mr. W. Borrer favoured us with this minute plant, which seems to be not uncommon, though easily overlooked or neglected by trivial observers.

Spiloma vasculare

SPILOMA versicolor.

Variegated Spiloma.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Receptacles* shapeless, without a border, hairy and powdery, in an uninterrupted crust.

SPEC. CHAR. Crust thin, leprous, cracked, greyish, variegated with white or yellow. Receptacles depressed, flattish, rounded, sometimes confluent, very black.

SYN. Arthonia versicolor. *Ach. in Schrad. New Journ. vol. 1. fasc. 3. 9. t. 4. f. 9.*

GATHERED on the rugged bark of old trees in Norfolk and Suffolk by Mr. D. Turner, who sent it to Sweden for the determination of Professor Acharius. That learned botanist, being just then intent on establishing his new genus *Arthonia*, referred this and some nearly allied species to it, which we cannot but think more properly belong to *Spiloma*, on account of their rough, hairy and powdery receptacles; whereas those of *Arthonia* are firm, smooth and even, like the shields of a *Lichen*, with which also they agree in their cellular internal structure.

The crust of the present species is uniform, not very distinctly limited, of a thin, even, finely leprous substance, variously cracked; white within; externally smooth, variegated with white and a pale smoky grey; occasionally with a yellow or greenish tinge. The numerous receptacles, intensely black both within and without, are scattered over the crust, of various sizes, and of a rounded figure, but often running together into oblong spots. They are sunk in the crust, and nearly flat.

2077

Spiloma nigrum.

New Every Publish'd 1 Jul. by J.ª Sowerby London.

SPILOMA variolosum.

Pustulous Spiloma.

CRYPTOGAMIA Algæ.

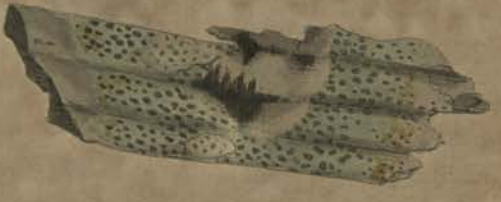
GEN. CHAR. *Receptacles* shapeless, without a border, hairy and powdery, in an uninterrupted crust.

SPEC. CHAR. Crust tartareous, rugged, greyish white, cracked. Receptacles convex, rounded, very black; their centres often deciduous.

FOR this nondescript species we are obliged to Mr. Turner, who finds it on old trees in many places, more especially at Coltishall, Norfolk.

The crust is white, more or less clouded with grey, and differs from the last in being of a much thicker and tartareous texture, rugged and rough in the surface; like that somewhat cracked or tessellated, and of an indeterminate figure. Receptacles numerous, convex, intensely black, of a rounded but irregular shape, their middle part often breaking off unequally, and exposing to view the white crust beneath, which is elevated, forming a sort of core to the receptacle, as in *Lichen sanguinarius*, *t.* 155, and many others.

2078
1982



Spiloma auratum

... published by J.ᵒ Sowerby London

SPILOMA auratum.

Golden Spiloma.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Receptacles* shapeless, without a border, hairy and powdery, in an uninterrupted crust.

SPEC. CHAR. Crust tartareous, rugged, greenish or greyish white. Receptacles convex, rounded, black; orange-coloured within.

THIS, perhaps the most curious of its genus at present known, was first discovered by Mr. Turner and Mr. W. Borrer on Wrentham church, Suffolk. It grows also upon the bark of fir and other trees. In the latter case the crust is thinner and greener; on stone walls it assumes the thick tartareous rugged appearance of many leprous Lichens, being internally very white and chalky, externally greyish, extremely tumid and rugged. The receptacles are numerous, rounded, convex, outwardly of a brownish, not very intense, black. The black coat is thinner than in the last-described species, and covers another, of about equal thickness, of a fine orange hue, which comes in sight, either spontaneously, by the ripening and scaling off of the black surface, or by any injury offered to the latter, so that the whole plant is often rendered very conspicuous by the copious display of this orange-coloured part.

Arthonia Swartziana.

Recently published by J. Lowry, London.

ARTHONIA Swartziana.

Swartzian Arthonia.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Receptacles* in an uninterrupted crust, shapeless, without a border, smooth, in which the seeds are imbedded.

SPEC. CHAR. Crust thin, membranous, scaly, cracked, cream-coloured. Receptacles black, depressed, roundish, wavy, rather uneven.

SYN. Arthonia Swartziana. *Ach. in Schrad. New Journ. v.* 1. *fasc.* 3. 13. *t.* 4. *f.* 1.

FOUND by Mr. W. Borrer upon the smooth barks of trees in Sussex; and on being sent to Dr. Acharius, it was returned by him with the above synonym. It is one of those plants, of the Lichen family, which have given this learned investigator the most trouble, and on which he has at last founded the above new genus. We deem it therefore important to publish the plant at any rate, whether the genus should remain or not; but we must confess that if we could with satisfaction have referred it to any established one, we would have done so. It might indeed have been forced into *Lichen*, but only till that whole tribe were reduced to order.

The crust is thin, membranous, uninterrupted and circumscribed, of a dirty or yellowish white, cracked, and scaling off elastically here and there. Receptacles black, hard, numerous, small, depressed, rounded, but irregularly wavy or angular, being of an indeterminate figure, without any border. Internally they are palish.——We have alluded to the present genus at *p.* 1847.

DIPSACUS fullonum.

Manured, or Fuller's Teasel.

TETRANDRIA Monogynia.

GEN. CHAR. *General calyx* of many leaves; *partial* superior, of one leaf. *Receptacle* chaffy. *Seed-crown* cup-shaped.

SPEC. CHAR. Leaves connected at the base, serrated. Scales of the receptacle hooked. General calyx reflexed.

SYN. Dipsacus fullonum. *Linn. Syst. Veg. ed.* 14. 143. *Sm. Fl. Brit.* 168. *Huds. ed.* 1. 49. *With.* 182. *Hull.* 33. *ed.* 2. 42. *Linn. Sp. Pl.* 140, β. *Huds. ed.* 2. 61, β.

D. sativus. *Ger. em.* 1167. *Raii Syn.* 192.

HUDSON mentions this plant as growing about hedges. It may in the clothing counties, where it is cultivated for use in carding woollen cloth, escape from the fields, but we have never seen it in such a station as to appear really wild. Our specimen was taken from Mr. Forster's garden at Clapton. It flowers in July, and is biennial.

Concerning its specific difference from *D. sylvestris*, *t.* 1032, we think there is much doubt. The leaves are occasionally united or separate at the base in both. The scales which stand between the flowers in this, are constantly hooked at the point. The involucral leaves, or general calyx, spread more. The whole plant has a paler hue. How far repeated cultivation in rich ground may be capable of producing these differences, we are not competent to decide. We are however much persuaded that *D. laciniatus* of Linnæus is only a variety of the plant before us.

ECHIUM italicum.

White Viper's-Bugloss.

PENTANDRIA Monogynia.

GEN. CHAR. *Cor.* irregular, its orifice open and naked. *Stigma* cloven.

SPEC. CHAR. Stem erect, hairy. Spikes lateral, very hairy, spreading upward. Corolla nearly equal. Stamens very long.

SYN. Echium italicum. *Linn. Sp. Pl.* 200. *Sm. Fl. Brit.* 221. *Huds.* 83. *With.* 232. *Hull.* 48. *ed.* 2. 61. *Dicks. H. Sicc. fasc.* 14. 8.

Lycopsis. *Raii Syn.* 227.

A NATIVE of Jersey, for specimens of which from Chelsea garden we are obliged to our kind friend Mr. Fairbairn. It is biennial, flowering in July.

At *t.* 181 we have expressed doubts, which are now removed, respecting the distinction betwixt this and *E. vulgare*. The *italicum* is rather hairy than bristly, and has a much more hoary aspect. The flowers are white, not half so large as those of the common kind, still more nearly regular or equal, with blunt segments and very long stamens. Calyx excessively bristly, especially in wild specimens.——The stem is erect. Leaves lanceolate, or tongue-shaped, clothed with hairs springing from callous tubercles. Spikes lateral, somewhat deflexed, much elongated and ascending as they ripen seed. The flower-buds are of a pale pink before they open.

Hieracium
murorum.

No. 1088 published by J. Sowerby, London

HIERACIUM murorum.
Wall Hawkweed.

SYNGENESIA Polygamia-æqualis.

GEN. CHAR. *Recept.* nearly naked, dotted. *Cal.* imbricated, ovate. *Down* simple, sessile.

SPEC. CHAR. Stem branched, corymbose, one-leafed. Leaves ovate, inclining to heartshaped, wavy; with radiating teeth chiefly at the base.

SYN. Hieracium murorum. *Linn. Sp. Pl.* 1128. *Sm. Tr. of L. Soc. v.* 9. 236. *With.* 686. *Hall.* 176. *Sm. Fl. Brit.* β. 830. *Huds.* γ. 345.

H. macrocaulon hirsutum, folio rotundiore. *Raii Syn.* 169.

Pulmonaria gallica, sive aurea, latifolia. *Ger. em.* 304.

THE wild specimen drawn in our plate was gathered in May last upon Chedder cliffs, Somersetshire, by Mr. E. Forster. The plant is perennial, and usually flowers again in the autumn, as mentioned under *H. sylvaticum*, *t.* 2031, which latter we presume to be the *murorum* of all our local Floras, as it was also mistaken for such in *Fl. Brit.*

The present *Hieracium* is known by its numerous roundish-ovate, or somewhat heartshaped, radical leaves, which are hairy, wavy at the edge, more or less toothed about the base, and the teeth are radiant, the lowermost pointing backwards, and being sometimes remarkably elongated. The footstalks and backs of the leaves are often purple. Stem erect, round, furrowed, hairy, branched, in a corymbose manner, with several flowers, at the top, bearing one leaf only, usually much toothed, in the lower part. Flowers full yellow, rather larger, and with a thicker blacker calyx, than in *H. sylvaticum*, as well as rather more corymbose. In fading all these flowers turn of a tawny orange.

2083.
1086.

Hieracium published by J.F. Lowth, Lodon.

HIERACIUM Lawsoni.

Glaucous Hairy Hawkweed.

SYNGENESIA Polygamia-æqualis.

GEN. CHAR. *Recept.* nearly naked, dotted. *Cal.* imbricated, ovate. *Down* simple, sessile.

SPEC. CHAR. Stem remotely branched, not striated. Leaves almost all radical, stalked, elliptic-lanceolate, decurrent, glaucous, fringed, nearly entire.

SYN. Hieracium Lawsoni. *Villars. Dauph. v.* 3. 118. *t.* 29, bad.

H. glaucum pilosum, foliis parùm dentatis. *Dill. Elth.* 180. *t.* 149.

H. leptocaulon hirsutum, folio longiore D. Lawson. *Raii Syn. ed.* 2. 74. *ed.* 3. 169.

LIVING plants of this *Hieracium* were communicated to us from the Cambridge garden, by Mr. Donn, as undoubtedly of British growth. It is evidently the above plant of Dillenius, though he seems not to have hit on the proper synonym of Ray, but rather referred it, not without doubt, to one which belongs to the true *murorum*, *t.* 2082. Our plant agrees precisely with the specimen of the *H. Lawsoni* of Villars, mentioned in *Tr. of L. Soc. v.* 9. 241, to which place we refer the botanical critic for further remarks on this subject, requesting him to erase the above synonyms of Ray and Dillenius from *H. sylvaticum* β in *p.* 240, the question respecting them being now decided.

This flowers in July, and has an abrupt perennial root, with thick fibres. The herbage is of a full unpolished glaucous green. Stem erect or spreading, a foot high, round, hairy, very even and not striated, divided into a few long and remote branches, beset in their upper part with black, prominent, glandular bristles, and cottony at the top. Radical leaves numerous, elliptic-lanceolate, acute, nearly entire, hairy, especially their edges and midrib; the base tapers down into a long, bordered, fringed footstalk. One similar but sessile leaf stands usually near the bottom of the stem; the upper ones are scarcely more than bracteas. Flowers solitary at the top of each branch, larger and paler than those of *H. murorum*, with a broad dark hairy calyx.——The plant abounds with bitter milk.——The synonyms in Villars are incorrect.

Conferva curta

CONFERVA curta.

Short Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Pale brown. Filaments simple, cespitose, rigid, nearly upright; tapering at the base. Joints slightly tumid, about as broad as long.

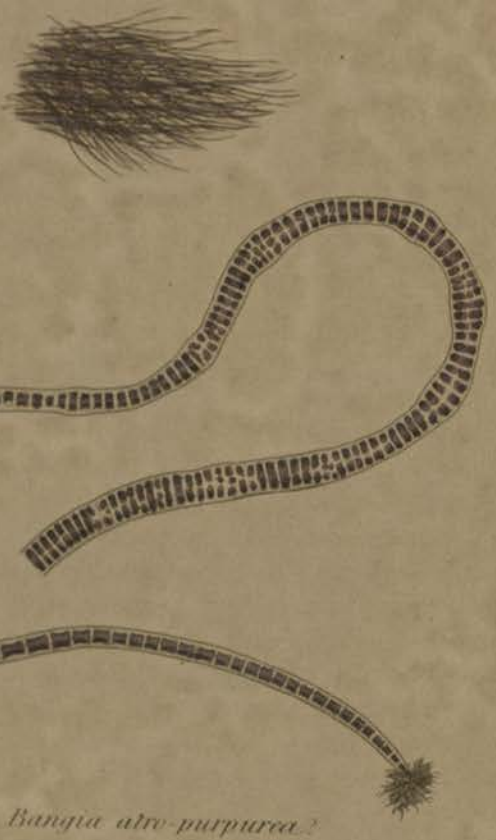
SYN. Conferva curta. *Dillw. Conf. t.* 76. *Synops. n.* 51.

COMMUNICATED to Mr. Turner by Miss Hill, a most indefatigable and faithful observer, who found it growing parasitically on *Fuci* in the sea near Plymouth. Mr. Dillwyn suspects it to be not uncommon.

The short simple fronds form dense rigid tufts, about a line high, of a very pale brownish hue. Each plant is quite unbranched, swelling upwards from a taper base; slightly beaded from the swelling of the joints, each of which is about as broad as long, the uppermost rather obtuse.

We have referred above to the very useful *Synopsis*, published by Mr. Dillwyn at the end of his work on *Conferva*, which we regret to find he has now finally concluded. Such accurate observers, who direct their undivided attention to one subject, are invaluable in the intricate departments of cryptogamic botany. We submit with equal pleasure and confidence to this author's opinion, on points to which he has given infinitely more time and pains than we possibly could afford, and we shall reconsider our genus *Vaucheria*, *t.* 1765, 1766, about which he adopts the sentiments of Roth in strong opposition to those of Vaucher.

2065.



Bangia atro-purpurea?

Published by J. Sowerby, London.

CONFERVA atro-purpurea.

Dark-purple Simple Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Deep purple. Filaments simple, at length swelling unequally. Joints about as long as broad, with a double transverse row of seeds in each.

SYN. Conferva atro-purpurea. *Roth. Catal. fasc.* 3. 208. *t.* 6. *Dillw. Conf. t.* 103. *Syn. n.* 57.

OUR specimens were communicated to our good friend Mr. Turner by Mr. Rashleigh, from Cornwall.

The root of this plant is found by the microscope to consist of a very evident tuft of fibres. Numerous fronds grow together, forming close, silky clusters, of a deep dull purple, an inch or two long. Each frond is quite simple, finer than the finest human hair, uniform in thickness till it swells in various parts irregularly as it advances in age. The joints are nearly as long as broad, pellucid, each containing an assemblage of dark purple matter, presumed to be the seeds, lodged in two transverse rows. Dr. Roth says such is its most perfect or vigorous state, and that by age or drying the purple matter occupies the whole internal part of each joint. We have only seen it dried, but the separation in general remains, and there is often a further division of the contents longitudinally.

Bulbocha setigera?

Published by J. Sowerby, London

CONFERVA vivipara.

Viviparous Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Green, alternately branched. Joints five times as long as broad, swelling upwards; each bearing a lateral, very long, slender, simple branch, bulbous at its base. Capsules lateral, sessile.

SYN. Conferva vivipara. *Dillw. Conf. t.* 59. *Syn. n.* 86.
C. setigera. *Roth. Catal. fasc.* 3. 283. *t.* 8. *f.* 1.

FOUND in fresh water near Yarmouth by Mr. Turner, to whom we are obliged for specimens.

The fronds compose dense continued masses on various aquatic plants, of a light pellucid green colour, and from 2 to 6 lines high. Each stem is repeatedly and alternately branched, zigzag, the joints rather swelling upward, or club-shaped, 4 or 5 times as long as broad. From the top of each joint, on one side, springs a very long, and extremely fine, simple hair-like branch, not one tenth so thick as the main stem though its joints are of the same length, with a tumid bulb-like base. Where such slender branches are wanting, a sessile capsule, of an elliptical form, dark in the centre, is found in the place of each. These are not in our specimen, so that we have borrowed some from Mr. Dillwyn's figure. We retain his name, in preference to Dr. Roth's equally good one, published the same year, out of respect to the authority which we think his *Synopsis* may justly claim.

2027

2544

Draparnaldia plumosa?

Pubd by P. Crouch, London.

CONFERVA lubrica,
Slippery Green Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Green, gelatinous, very much branched; branches opposite, crowded, the ultimate ones very sharp, mostly alternate. Joints about as broad as long.

SYN. Conferva lubrica. *Dillw. Conf. t.* 57. *Syn. n.* 89.

COMMUNICATED by Mr. Turner from a rivulet at Lound near Yarmouth, where Mr. Dillwyn informs us it was first discovered by himself, and that he has since found it, much more abundantly, near Swansea.

It grows on wood or stones, in floating masses, from a span to a foot long, of a fine slightly glaucous green, very gelatinous and slippery to the touch. Each frond or filament is in the main simple, but beset throughout with numerous, opposite, compound branches of various lengths, whose ultimate divisions are very acutely awlshaped, and mostly alternate. The joints are about as long as they are broad, or rather longer.——This is most akin to *C. mutabilis, t.* 1740, but they are abundantly distinct.

Conferva fluviatilis

CONFERVA flavescens.

Yellowish-green Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Yellowish-green, repeatedly branched, even; ultimate branches alternately two-ranked, short. Joints cylindrical, many times longer than broad.

SYN. Conferva flavescens. *Roth. Catal. fasc.* 2. 221. *fasc.* 3. 241. *Dillw. Syn. n.* 96. *t.* E (not D).

GATHERED by Mr. W. J. Hooker in ditches at Cley, and by Mr. Turner in salt-water marshes about Yarmouth. The tufts are large, erect, a span high, of a light yellowish green. The plants crowded, very much and repeatedly branched throughout, slender, capillary, even; the larger branches opposite or forked; the ultimate ones short, simple, spreading two opposite ways in short alternate rows. Joints cylindrical, about 6 or 8 times as long as they are broad. The fructification is supposed by Dr. Roth to be internal, within each joint.

Mr. Dillwyn mentions this species as found also in the New River at Stoke Newington, by Mr. Joseph Woods.

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